Proteomic Profiling of Nguni Cattle Liver Tissue Using Gel and Gel-Free Approaches: Methodology Development and Potential Applications

By

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DECLARATION

I, Sindisiwe Buthelezi, hereby declare that the work on which this dissertation is based is my original work (except where acknowledgements indicates otherwise), I did all the work and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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ABSTRACT

In South Africa, resource-poor farmers mainly depend on livestock farming for their livelihoods, with cattle production being the most important livestock sector. As a consequence of natural selection in stressful conditions, Nguni cattle have been reported to be metabolically superior to other cattle breeds under unfavourable conditions. Using proteomics, with mass spectrometry at the core of the analysis, the objective of this study was to establish a reliable set of methods for the protein profiling of Nguni cattle livers. To achieve this several alternative technologies were employed and their outcomes compared namely, two-dimensional electrophoresis, fractionation by solution phase iso-electric focusing-reversed phase chromatography (IEF-RP), offline strong cation exchange- low pH reversed phase chromatography (SCX-RP) and offline high pH reverse phase-low pH reverse phase chromatography (RP-RP). All solution based methods were coupled to a tandem mass spectrometer. Protein identification was performed using the Paragon™ Algorithm of Protein Pilot v4.0 as well as PEAKS v6. The IEF-RP and RP-RP methods achieved similar results in terms of number of proteins identified. In addition, proteins that play a role in the urea cycle (which is believed to contribute to the Nguni cattle's enhanced metabolic ability) were all identified with both techniques. The RP-RP method was selected as the most appropriate method for future research linked to this work and will be used in the next phase of this project, on the basis that it is easier to automate compared to the IEF-RP method. It will be used beyond the scope of this work to compare levels of expression and modification of the liver proteins and their isoforms in Nguni and Hereford cattle grown under adverse environmental conditions, in order to identify those that may contribute to enhanced liver metabolism in Nguni cattle. This will be complemented by the identification and characterisation of potential polymorphisms with in such proteins that can be used to select for this trait during breeding.

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ABBREVIATIONS

ACN	Acetonitrile
AC-RPLC	Affinity chromatography- reverse phase liquid chromatography
ARC	Agricultural Research Council
APS	Ammonium persulfate
BUN	Blood urea nitrogen
CHAPS	3-(3-cholamidopropyl)-dimethylammonio-1-Propanesulfonate
ddH_2O	Double distilled water
DIGE	Differential in-gel electrophoresis
DTT	Dithiothreitol
ESI	Electrospray ionisation
FA	Formic acid
FASP	Filter aided sample preparation
FDR	False discovery rate
Fcs	Fractions
HCL	Hydrochloric acid
H_3PO_4	Phosphoric acid
HPLC	High performance liquid chromatography
IAA	Iodoacetamie
ICAT	Isotope-coded affinity tags

IDA	Information dependent acquisition
IEF	Isoelectric focusing
IPG	Immobilized pH gradient
IQ	Intraquadrupole lense/ Interquadrupole
iTRAQ	Isobaric tags for relative and absolute quantification
KCl	Potassium chloride
kDa	Kilodaltons
KH_2PO_4	Monopotassium phosphate
LC-MS/MS	Liquid chromatography tandem mass spectrometry
MRM	Multiple reaction monitoring
MS	Mass spectrometry
MS/MS	Tandem mass spectrometry
MW	Molecular weight
m/z	Mass/charge
N	Nitrogen
NaCl	Sodium chloride
NaH_2PO_4	Sodium phosphate
NH_4OH	Ammonium hydroxide
NPN	Non-protein nitrogen
oMALDI	Orthogonal Matrix assisted laser desorption/ionization
pI	Isoelectric point
PPS	3-[3-(1,1-bisalkyloxyethyl)pyridine-1-yl] propane-1-sulfonate

PSPEP	Proteomics system performance evaluation pipeline Software
PTM	Post-translational modifications
QTRAP	Quadrupole ion trap
QTOF	Quadrupole time of flight
Q	Quadrupole
RP	Reversed phase
SILAC	Stable isotope labelling with amino acids in cell culture
SCX	Strong cation exchange
SDS	Sodium dodecyl sulfate
SDS-PAGE	Sodium dodecyl sulfate polyacrylamide gel electrophoresis
SRM	Single reaction monitoring
ST	Stubbies
STAGE	Stop and go extraction
TEAB	Triethylammonium bicarbonate
TEMED	Tetramethylethylenediamine
TFA	Triflouro acetic acid
Tris	Tris (hydroxymethyl) aminomethane
2DE gel	Two dimensional electrophoresis gel
2D-HPLC	Two dimensional high performance liquid chromatography

CHAPTER 1: INTRODUCTION

1.1. Cattle Breeding

South Africa as a developing country is faced with several challenges, amongst them is food insecurity in households, mainly in rural areas. More than 30 % of the South African population depends on farming for survival; this statistic indicates the importance of agriculture in South Africa (1). Due to high drought incidences, most of the communal farmers have to depend on livestock farming for their livelihood, with cattle production being the most important livestock subsector. They breed cattle for multiple reasons, which include the transporting of goods in communal areas, milk, meat, manure and cash sales (1, 2).

In attempts to improve livestock farming, people were previously encouraged to castrate and replace the indigenous Nguni breed (Figure 1.1a) with imported ones, as they were viewed to be inferior because of their relatively small body size (1, 3, 4). However non-indigenous breeds, like the Hereford (Figure 1.1b), were found to cope poorly with the harsh South African environment (5). Nutritional shortage and poor management resulted in an increased susceptibility to parasites and diseases, which in turn decreased meat quality. The newly-introduced cattle breeds therefore became very difficult and relatively expensive to maintain (4).

Figure 1.1: Nguni cow South African breed (a) Hereford European breed (b) (Source:(6, 7)).

1.2. Nguni Cattle

The Nguni cattle (Figure 1.1a) are descendants of the *Bos Taurus* which were domesticated about 8000 years ago in North-Eastern Africa (8). These cattle have a long history in South Africa, a country where over 70 % of resource-poor farmers are situated in harsh agro-ecological zones (3).

As a consequence of natural selection in stressful conditions, the Nguni cattle have been reported to be metabolically superior under unfavourable conditions, thus indicating an adaptive measure to survive times of poor feed quality (8). Adaptive traits which emerged include tick-bone disease resistance, tolerance to extreme temperature, and good walking ability that enables the breed to travel long distances when grazing and looking for water (3-5).

1.3. Protein Degradation by Ruminants

Degradation of protein in ruminants, initially involves attachment of symbiotic ruminant microorganisms to the feed particles in the upper gut (9). The cell bound microbial proteases then become activated thus resulting in protein degradation. However some proteins escape degradation and pass to the lower gut for digestion or excretion in urine or faeces (Figure 1.2) (10).

Protein solubility plays a key role on its degradability by microbial proteases. For example, Romagnolo and colleagues (11) showed that soluble globulins are highly degradable while insoluble prolamins and glutens are degraded very slowly.

Metabolism of proteins, peptides, amino acids and urea leads to the production of ammonia. Ammonia then becomes utilized by bacteria and excess ammonia becomes converted to urea by the liver (12). The majority of this urea becomes excreted in urine and only a small fraction is recycled via saliva. If the bacteria are able to use all of the ammonia, produced nitrogen ends up as protein presented to the intestine for absorption. However if the ammonia production exceeds the bacteria's ability to convert it into microbial protein, only the proteins that had escaped degradation contribute to the host's amino acid nutrition (Figure 1.3) (10).

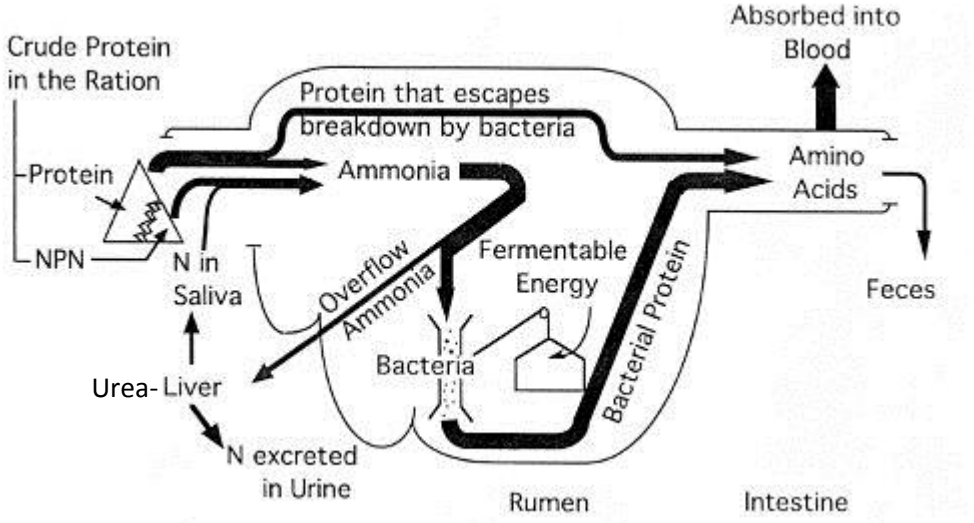


Figure 1.2: Nitrogen metabolism in cattle (Source: (10))

Abbreviations: NPN=Non-protein nitrogen, N=Nitrogen

Preliminary unpublished work investigating the mechanisms behind the Nguni cattle's superior ability to survive under adverse environmental conditions was done at the Agricultural Research Council (ARC) Animal Improvement Institute, under the leadership of Mr. Hans Van Zyl, Division of

Molecular Genetics, Animal Production Institute. The results showed that the Nguni breed maintained elevated urea levels relative to the Hereford breed. Thus, it appears that this indigenous African breed may have evolved the ability to re-circulate nitrogen while other breeds simply lose nitrogen through excretion in urine or faeces.

This capability may give the Nguni cow the ability to maintain good health and weight in winter thereby allowing it to survive better under adverse environmental conditions. These findings suggest that the nitrogen recycling pathway may be involved in the cow's superior survival ability by making it less dependent on dietary proteins than other breeds, which raised interests in understanding this aspect of the Nguni cattle's biology.

1.4. Rational and Motivation

Cattle especially at an industrial level are raised in large scale operations as they produce meat and dairy products for human consumption. This makes it even more challenging for farmers to maintain the balance between turning in profit and customer satisfaction (13). Determining which cows in the herd possess superior genetic traits at an early stage would help balance these needs. However, in order to get to that stage, a detailed knowledge of the pivotal biological traits and biomarkers which play a role in meat and milk production is required (13).

Despite the social impact that the Nguni breed could have on rural areas in trying to alleviate poverty, very little effort has been put towards studying and elucidating various factors contributing to its excellent performance in adverse environments. Information on the adaptive value of the Nguni compared to the European breeds is thus very limited (14). In efforts to address this problem the CSIR in collaboration with the ARC Animal Improvement Institute undertook to perform a protein-based study with the aim of better understanding the above-mentioned phenomena.

1.5. Merging Agriculture with Proteomics

Proteomics is the study of the whole protein complement expressed by the genome, in an organism's cell or tissue type, which can also be referred to as the proteome (15). The proteome changes from cell to cell in response to various factors like for example, environmental change, nutritional status and drug treatments (16). At the same time the complexity of the proteome is increased by post-translational modifications and spliced isoforms that are especially common in multicellular organisms. This dynamic complexity has made it difficult to rapidly identify all proteins expressed in a cell or tissue under a given set of environmental conditions. Significant challenges still also exist in storing and interpreting the large amounts of data generated by high-throughput approaches in proteomics (15).

The study of proteins through proteomics has led to the discovery of various biological pathways that have resulted in a better understanding of cellular functions (17). The function of genes could be determined from cellular protein expression information, which eventually leads to elucidations of how heredity and environmental variables interact to control cellular functions, and form the physiological traits of living organisms (17).

Merging agricultural knowledge with proteomics and taking full advantage of technologies available in this field will enable scientists to build and test better hypotheses (17), eventually contributing to an increase in animal productivity on a commercial scale and poverty alleviation in rural areas.

Full proteomics characterization of any agricultural organism of interest is limited by the proteome's wide dynamic range and its complexity. In order to allow comprehensive meaningful analysis, the proteome must therefore be simplified or fractionated using more than one dimension before it can be characterised by downstream analytical methods such as mass spectrometry (MS) (18).

This project focused on method development and optimisation, for protein profiling in the liver tissue of the Nguni breed. The liver plays a role in metabolism of ingested nutrients and is also responsible for nutrient absorption (19). High amounts of ammonium (NH_4^+) and bicarbonate (HCO_3) are formed during the catabolism of amino acids. In mammals the synthesis of nontoxic urea in the liver is the major metabolic pathway that is responsible for removing the NH_4^+ and HCO_3. The hepatic glutamine synthatase enables the liver to buffer the concentration of these products. The disposal of nitrogen is achieved by converting the urea to urinary NH_4^+ which is then removed with glutamine as the nontoxic nitrogen carrier (20) Due to the important role played by this organ in nitrogen metabolism, it has been selected for investigation using a combination of whole proteome-based analytical approaches to facilitate protein identification. This project served as the first phase of the proteomics-based "Nguni Cattle Project" headed by the ARC. The techniques optimised in this study are to be used for the identification of key protein biomarkers potentially involved in enhanced nitrogen metabolism in the next phase of the project.

The proteome of the liver tissue consists of a wide variety of proteins, which have different sizes, hydrophobicity and acidity/basicity (21). Even though mass spectrometry (MS) analysis is capable of reliably identifying thousands of peptides, its capability relies significantly on the ability to resolve each species distinctly prior to MS detection (21). To achieve this several alternative technologies were employed in this project and their outcomes compared namely, two-dimensional electrophoresis gels (2DE gels), fractionation by solution phase iso-electric focusing (IEF), offline strong cation exchange-reverse phase chromatography (SCX-RP) and offline high pH reverse phase-low pH reverse phase chromatography (RP-RP).

1.6. Sample Preparation

When designing a proteomics experiment that utilises MS technology one can either go for the *top-down* or *bottom-up* approach depending on what they would like to achieve. The *top-down* approach involves the mass measurement of intact protein by using MS and tandem MS (MS/MS). It could be the approach of choice when the aim involves the determination of protein structure or mutations at certain sites of the protein (22), for single proteins. Analysis of complex protein mixtures is difficult due to the separation requirements of this complex mixture and a need for sufficient quantities of material (23).

The *bottom-up* approach which is responsible for over 90% of all proteomics analysis (24), would be an approach of choice when the aim is to identify proteins in a complex mixture, especially in biomarker discovery studies. It involves digestion of intact proteins into peptide fragments that allow for protein identification, on the MS. The *bottom-up* approach can also be used to determine quantitative information by using stable isotope labelling or label-free approaches that involve spectral counting (23). Proteins can be separated first using a gel-based method and then in-gel digested to produce peptides for MS analysis or they can be digested first, then separated using solution-based techniques (24).

1.6.1. Protein Extraction

Protein extraction is the initial and one of the most important steps in sample preparation as it influences protein recovery and coverage. This step involves the conversion of the tissue into suitable analyte for protein identification (24).

Two of the most popular extraction methods in MS based analysis (25) were compared in this project. The one involves protein extraction with strong chaotropic reagents in combination with zwitterionic detergents (CHAPS), ampholytes and dithiothreitol (DTT) (26). These chaotropic reagents (urea and thiourea) achieve protein solubilisation by unfolding the protein via

hydrogen bonds and electrostatic interactions (23). However high concentrations of urea also interfere with trypsin digestion and their concentration has to be decreased to acceptable amounts (1 M) which is often not enough to keep some proteins in solution. Ampholytes (which are added to the samples to reduce protein aggregation by preventing proteins from interacting with each other ionically) are charged molecules they therefore bind to the reversed phase column, thus reducing the binding sites for the peptides of interest. They therefore have to be removed before the sample is introduced into the RP column to prevent them from interfering with the effective detection of peptides (21).

The other method, which involves protein extraction using detergent (sodium dodecyl sulphate (SDS) in combination with ultra-filtration based sample clean-up, is known as filter-aided sample preparation (FASP) method (25). SDS solubilises a very wide range of proteins in the cell. It has a long and flexible alkyl tail that enables it to hydrophobically bind with all combinations of amino acids, thus efficiently solubilising proteins (27).However, this ionic detergent binds very tightly to proteins, leading to interference with enzymatic digestion (25). It also ionises better than peptides and thus dominates mass spectra (25). Botelho and colleagues (28) reported that SDS concentrations from ≥ 0.01% cause a drop in signal; it also affects the peak shape or HPLC retention time of peptides and ultimately leads to a drop in the number of identified peptides. However despite all of these disadvantages, SDS benefits can still be realised as long as it is depleted before digestion and analysis on the MS. The method for achieving this involves buffer exchanging the protein sample into SDS free buffer (8 M urea) at high speed (25).

After the removal of SDS and dropping the chaotropic reagents concentrations to reach levels that do not interfere with proteolytic digestions, there is a risk of proteins becoming insoluble. Proteolytic digestion especially in complex protein mixtures is usually limited by protein solubility and the instability of its unfolded states. To keep proteins in solution, acid cleavable and MS compatible denaturants often referred to as acid labile surfactants, can be used (29). Examples of these denaturants include RapiGest from

Waters (Milford, MA) 3-[3-(1,1-bisalkyloxyethyl)pyridine-1-yl] propane-1-sulfonate (PPS) from Protein Discovery (Knoxville, USA) and Invitrosol from Invitrogen (California, USA) (30). Another advantage of these surfactants is that they do not interfere with proteolytic digestion (31). Two of these MS compatible surfactants were present in the laboratory (RapiGest and PPS) and protein digestion in their presence was compared.

Hydrochloric acid (HCL) or trifluoroacetic acid (TFA) are usually used to degrade the RapiGest SF surfactant (RapiGest; Waters, Milford, MA) and the PPS Silent Surfactant (PPS; Protein Discovery, Knoxville, USA). In the acid environment RapiGest is broken down into two products as indicated in Figure 1.3. Tridecan-2-one (II) can be removed by centrifugation because it is insoluble in water. The other product, sodium 3-(2,3-dihydroxy) propoxypropanesulfonate (III) is an ionic compound that is soluble in water but it has not been found to interfere with reverse phase liquid chromatography (RP-LC) or MS analysis (31).

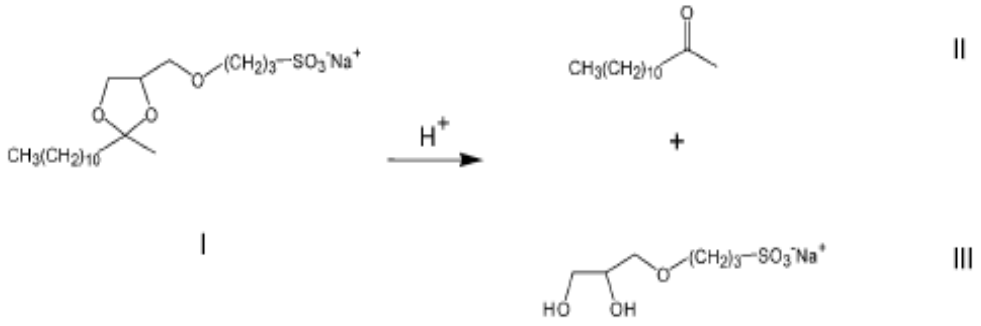


Figure 1.3: (I) RapiGest rapid decomposition into, tridecan-2-one (II) and sodium 3-(2,3-dihydroxypropoxy) propanesulfonate (III) under low-pH conditions (source: (31)).

Decreasing the pH below 3 of a sample containing PPS starts the degradation of the acid sensitive ketal groups. During the cleavage of PPS two volatile alcohols (I) are produced and the pyridinium propyl sulfanate (II) does not interfere with MS analysis of peptides as it does not associate strongly with any kind of reversed phase column (Figure 1.4) (29).

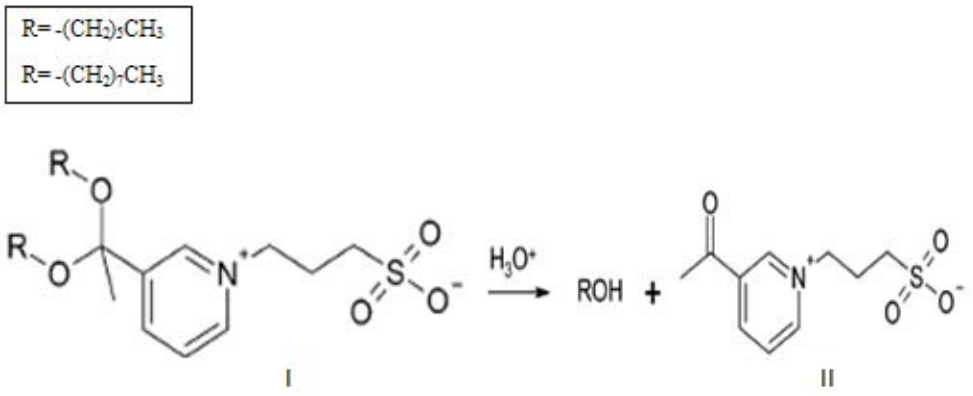


Figure 1.4: Cleavage reaction of PPS in an acidic environment (Source: (29)).

During digestion optimisation, RapiGest was compared in this study to PPS. The surfactant that yielded the highest number of peptide and protein identifications was selected and used in experiments that followed.

1.6.2. Protein Digestion

Several enzymes can be used to cleave proteins, these include trypsin, LysC endoprotease, and pepsin amongst many (32). In this project proteins were digested using trypsin, which cleaves proteins on the C-terminus of the lysine and arginine residues. It has become the most widely used cleavage enzyme in the proteomics field, because of its ability to produce smaller average lengths and charge retaining basic residues at the C-terminus of the tryptic peptide. These tryptic peptides are a better fit for modern reversed phase liquid chromatography/tandem mass spectrometric analysis (32).

1.7. Gel-Based Protein Separation

1.7.1. Two-Dimensional Electrophoresis

Two-dimensional gel electrophoresis is one of the most popular proteomics techniques, for decreasing the complexity of protein mixtures. Proteins are

firstly separated according to their iso-electric points (pI) on immobilized pH gradient strips (IPGs) (33). Since proteins are separated according to their different charges, some of their post-translationally modified forms can also be separated from the unmodified forms, for example phosphorylated and unphosphorylated variants respectively (24).

The second dimension allows for further separation according to size in a polyacrylamide gel (34). These gels can be cast in any polyacrylamide percentage and size for the separation of small or large proteins, although 7 cm or 18 cm gels containing 12% polyacrylamide are often used (24).

One of the advantages of this technique is that it removes low molecular weight impurities/contaminants, like detergents and buffer components that interfere with MS characterisation (35). The gel also provides a highly defined resolving environment; protein spots can further more be subsequently stored as gel plugs under buffered temperature-controlled conditions until analysis without degradation (24).

This method also has limitations, apart from being laborious, 2DE gels are known to be biased towards high abundance proteins and high concentrations of some proteins can mask low abundance proteins (36). It has problems recovering proteins with high molecular weights, hydrophobicity and extreme pI values (37). The proteins often become irreversibly fixed to the gel; they therefore have to be extracted on a peptide level. The enzyme used for digestion is usually added in higher concentrations than in in-solution digestion, in order for it to access the protein in the gel band. This usually results in a high background of autolysis products (24).

At the same time the stains used, combined with the detection limitations imposed by gel imagers, are not sensitive enough to enable the visualisation of very low abundance proteins (36). The most commonly used stains include

Coomassie, Silver stain, fluorescence stains like Oriole™, SYPRO® Ruby, Deep Purple and CyDyes (38).

Bio-Rad's PDQuest 2-D Analysis Software was used in this project to analyse the two-dimensional electrophoresis (2DE) gels. PDQuest is bioinformatics software that allows for comparison of experimental conditions by statistically measuring the protein intensities between spots of interest, to determine which differences are significant and which are not. Amongst its other features it also normalizes each gel, filters out background noise, and speckles that would have been mistaken for smaller protein spots (26).

Once differentially expressed spots of interest have been identified and isolated from 2DE gels, these are typically subjected to in-gel digestion. The spot samples can then be de-salted via Solid Phase Extraction (SPE), using for example STAGE (Stop and Go Extraction) tips, and the samples can then be analysed with laser assisted laser desorption ionisation mass spectrometry (MALDI-MS) or nanoelectro-spray ionisation tandem mass spectrometry (nanoESI-MS/MS) (35).

1.7.2. OFFGEL Fractionation

The OFFGEL apparatus was commercially introduced by Agilent Technologies (California, USA) in 2006 (39). It fractionates proteins and peptides based on their pI (40) in a two-phase system, with an upper liquid phase that is divided into compartments and a lower phase that is the traditional rehydrated IPG strip (41).

The peptides migrate through the IPG strip until they reach their pI, after IEF they can be recovered in the liquid phase wells for further analysis using for example RPLC-MS/MS (41, 42). The advantage of this technique is that the IPG strips allow one to have full control of a well defined pH range. The pH gradient does not have unfavourable effects on the peptides' chemistry. The

disadvantage is the long running time which can vary from a few hours to 3 days depending on the composition of the sample (41). Due to available equipment it was decided to fractionate peptides based on their pI using a Micro-Rotofor, described below (1.8.1.) which takes less than 2 hours to run.

1.8. Solution-Based Method for Peptide Separation

1.8.1. Solution Phase Iso-electric Focussing

Sample fractionation by solution phase IEF using a Micro-Rotofor instrument (Bio-Rad Laboratories, Inc, USA), is a non-gel based technique in which proteins are in solution from the preparation of proteomic samples right through to analysis on the MS; it therefore eliminates losses associated with poor recovery of proteins from gels (21).

Sample fractionation can be conducted in the presence or absence of carrier ampholytes. From previous unpublished work in the laboratory by Dr. Tsekoa and Dr. Stoychev, it was established that fractionation in the presence of ampholytes of desired pH range leads to identification of a higher number of proteins. Ampholytes were therefore used in all the Micro-Rotofor experiments performed in this study.

The proteome can be separated at either the protein or peptide level (43), which become continuously transported in a pH graded solution created by the carrier ampholytes of choice. The electric field acts as a deflecting force, allowing for a specific resolution and collection of the proteins/peptides based on their pI, in the various fractions of the focusing chamber (23, 43).

In this project fractionation was performed on a peptide level. The main advantage is that peptides are more soluble in aqueous buffers than proteins (23), which could then eventually lead to a higher number of protein identifications. In the next phase of this project we also plan to iTRAQ label the samples and that can only be done at a peptide level. The disadvantage

of this method is that highly abundant peptides can be detected across several fractions, thereby potentially masking the detection of peptides that are present at relatively low abundance. Another potential disadvantage of using the Micro-Rotofor is the presence of ampholytes in the fractions, which can be retained in the column and thus interfere with protein detection (21). This is minimized by using pre-concentration workflows where peptides are extensively de-salted/cleaned on peptide traps prior to elution on a C18 separation column and subsequent MS analysis (21).

1.8.2. Strong Cation Exchange- Reverse Phase Chromatography

HPLC-based reversed phase (RP) chromatography is often used in proteomics, to fractionate and therefore simplify the proteome before its introduction into the MS. It is considered to be a method of choice because of its ability to remove salts and it uses an ideal eluting solvent that is directly compatible with electro-spray ionisation (ESI) (18, 44). However in order to be able to efficiently separate thousands and thousands of peptides found in complex samples, further separation has to be employed upstream of the online reverse phase chromatography. This two-dimensional approach has proven to be superior to one a single level separation(18, 45).

In the first dimension peptides can be separated on the basis of their ionic properties by strong cation exchange (SCX) chromatography (46). The peptides are further separated on the reverse phase column based on their hydrophobic properties. The advantage of this approach is not only that the first dimension is compatible with the second dimension, but that peptides bind to the SCX column even in the presence of reagents like urea, DTT, SDS and other neutral detergents (47).

An online or offline approach can be used in 2D-LC chromatography. In the online approach a step gradient is used to sequentially elute the adsorbed

peptide fractions from the first dimension column, directly onto the second dimension RP column (46). The advantage of this approach is that there is no need for fraction collection and thus it is simpler to implement. However, the step up gradient that is used is not as efficient as the linear gradient used in the offline approach (46).

In the offline approach peptides are eluted using a linear gradient, and collected in individual fractions before being re-loaded and further separated via a second RP dimension directly coupled to a tandem mass spectrometer(46). The main advantage is that the first and second dimensions are decoupled and one can use conditions in the first dimension that lead to optimal separation (this cannot be done with online 2D-LC). Other advantages of this approach include the ability to collect more fractions, the user is able to choose which fractions should be analysed, fractions of interest can be re-analysed, and an extra cleaning step can be added between the two dimensions. The disadvantage is that by introducing an extra step, errors are also introduced and sample loss is possible (44, 46). In this project the offline approach was followed because of its advatages.

1.8.3. Reversed Phase – Reversed Phase Chromatography

In reversed phase–reversed phase (RP-RP) chromatography peptides are separated based on their hydrophobic nature in both dimensions. Peptides are eluted by using an organic solvent such as acetonitrile (ACN). By simplifying and reducing the number of peptides eluted from each fraction, RP-RP chromatography prevents the elution of complex peptide patterns that lead to poor MS resolution (47).

In the first dimension peptides are separated at alkaline pH, where basic amino acids are neutral and acidic ones are negatively charged. During the second dimension which is run at a low pH, acidic amino acids are neutral and basic ones are positively charged (48). Similarly to SCX-RP separation,

when using RP-RP one has the option of doing online or offline fractionation as described above (1.8.2). The offline approach was selected for the purposes of this study.

1.8.4. Other Two-Dimensional Liquid Chromatography Methods

The advantage of using 2D chromatographic techniques is that they give one the freedom to simplify a complex mixture by different routes using different fractionation ways based on the analytes physical and chemical properties (43). There are other 2DLC techniques besides the ones described above (SCX-RP, RP-RP). These include the size-exclusion chromatography (SEC)-RPLC, where proteins are initially fractionated based on their molecular size and peptides are separated based on their hydrophobicity in the second dimension (24).

Other methods include: affinity chromatography (AC)-RPLC, where specific subsets of the peptides are examined such as the phosphopeptides and glycopeptides. Anion exchange chromatography–RP where peptides are initially separated according to their charge, but unlike the SCX, it has positively charged functional groups that have an affinity for negatively charged peptides at a basic pH. Analytes can also be separated by hydrophilic interaction chromatography (HILIC), which was used originally to retain analytes with high polarities that are poorly retained in the RP column. The retention of the analyte is accomplished by partitioning it between the mobile phase and layer of water adsorbed on the hydrophilic sorbent surface (49).

1.9. Mass Spectrometry

The mass spectrometer has become an indispensible tool in proteomics, as it has helped achieve the two main objectives of proteomics. The first objective

is to identify proteins in a complex mixture extracted from a cell or tissue (50). It does this by generating a list of peptide masses that are then compared to those in the databases (24). The second objective is to determine the expression levels of the proteins of interest (50). A mass spectrometer, by definition has a source, a mass analyser that is responsible for measuring the mass-to-charge (*m/z*) ratio of the analyte and a detector that is responsible for registering the *m/z* of the various ions (51).

Matrix assisted laser desorption ionisation (MALDI) and electrospray ionisation (ESI) are most commonly use for protein and/or peptide ionisation (24, 52). MALDI uses laser pulses to ionise the analyte out of a dry, crystalline matrix (51) such as sinapinic acid, α-cyano-4-hydroxycinnamic acid, 2, 5 - dihydroxybenzoic acid or 2, 5 – Dihydroxyacetophenone (DHAP) (53, 54). ESI ionizes analytes from solution and this source can be directly coupled to a liquid chromatography system used for samples fractionation (52).

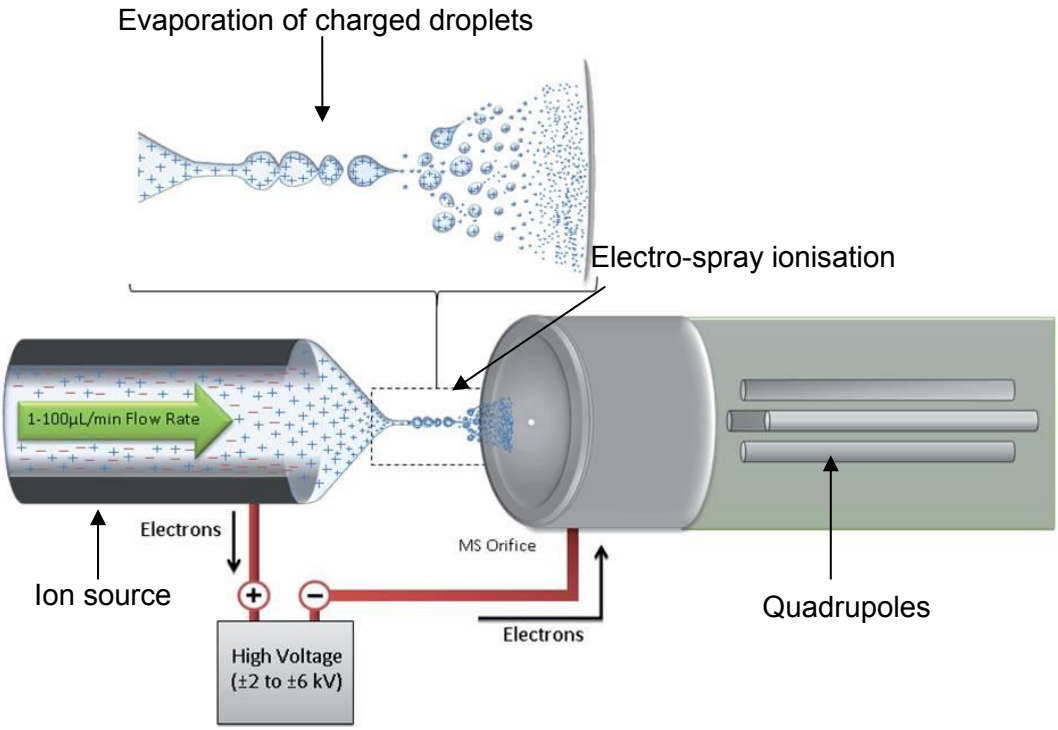


Figure 1.5: Illustration of the electrospray process (source:(55))

The sample in the electro-spray ion source is passed through a thin metal capillary, held at high electric potential of ±2-±6 kV. The electro-spray initiates from a solution phase then it becomes converted to a fine mist of charged droplets and as solvent becomes evaporated the drops shrink. When the critical level of the charge density in the droplet is reached, the Coulombic repulsion causes desorption of the charged gaseous ions (Figure 1.5) (52, 55).

There are many different kinds of MS analysers and the most popular ones employ a combination of more than one type of analyser. These include the Triple Quadrupole, Quadrupole Ion Trap (QTrap), Quadrupole Time-of-Flight (QTOF) and Quadrupole Ion Trap-Orbitrap (52). The Triple Quadrupole instrument has three sequential quadrupoles. The first quadrupole focuses ions into distinct packets. The second quadrupole is used to select certain ions, which can then be fragmented in the third quadrupole, usually through collision with an inert gas such as Argon (Ar) or Nitrogen (N) (52). A QTrap is hybrid instrument which is similar to a triple quadrupole instrument, the only

difference being the presence of an ion trap that allows concentration of low abundance ions prior further analysis (52).

A QTOF is a hybrid instrument, where a triple quadrupole is coupled to a time of flight (TOF) analyser. Figure 1.6 illustrates how ions are transmitted through a QSTARELITE (ABSciex, MA, USA) (QTOF-type instrument used in this study). In the orifice-skimmer-Q0 (quadrupole) region the ion beam is focused and prepared for analysis in the quadrupole region. The lQ1 is an interquadrupole lens and its function is to further focus ions from Q0 into the stubbies (ST). The Q1 separates ions according to their *m/z*; it is therefore referred to as a mass filter quadrupole. Ions become focused again by the intraquadrupole lens (lQ2) as they pass from the Q1 to Q2. Q2 is referred to as a collision cell where selected parent ions are fragmented allowing peptides to be sequenced. These ions are pulsed into the TOF from the Q2 with assistance from the quadrupole lens (lQ3) (24, 56).

The TOF is a mass analyser that is responsible for measuring the *m/z* ratio of an analyte (51). Its performance is improved by the reflector (ion mirror). The reflector improves the resolution and thus mass accuracy, by correcting small differences in the velocity spread of ions with the same *m/z* ratio during flight. The smaller ions that have a higher velocity penetrate deeper into the reflector than those with the same m/z but lower velocity (bigger ions). The ions then drift through the field-free region until they hit the detector. Ions with the same *m/z* have less separation and are clearly separated from those that have a slightly different *m/z* (57).

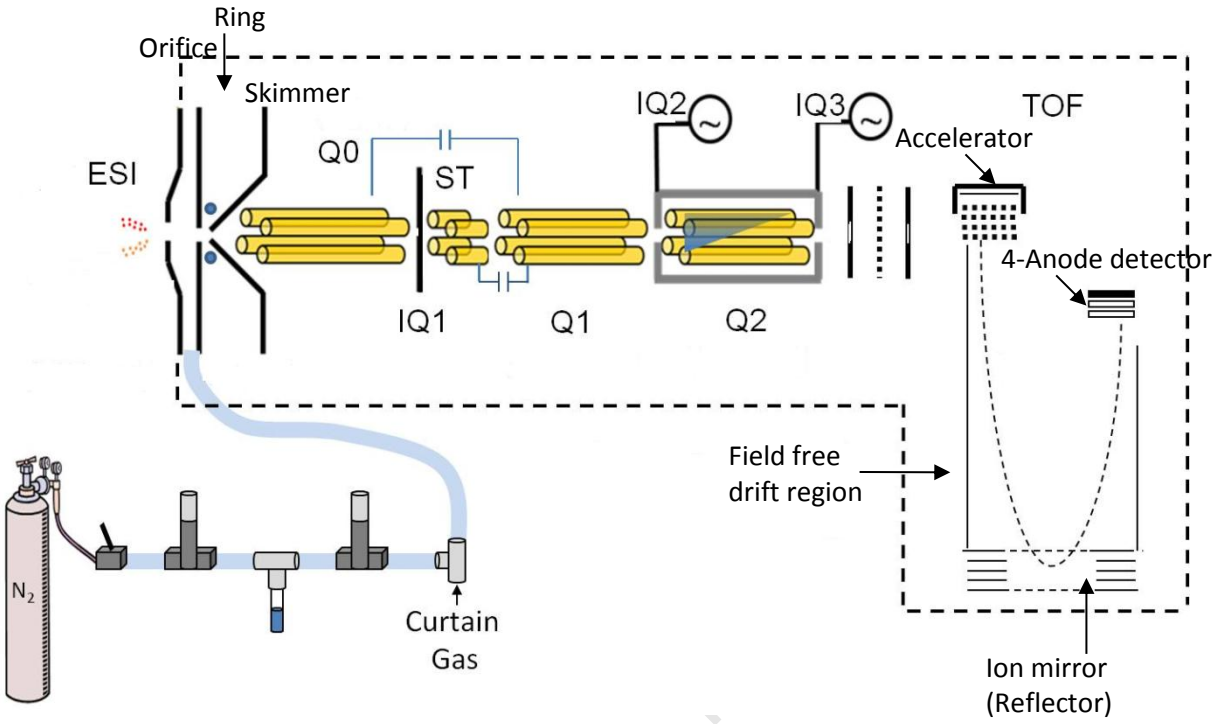


Figure 1.6:Schematic representation of the ABSciex QSTAR ELITE (Source:(58))

A Quadrupole Ion Trap-Orbitrap instrument is a hybrid of a linear quadrupole ion trap and an orbitrap mass analyser (52). Ions can be transferred from the linear ion trap into the RF- only quadrupole called the C-trap, where they are accumulated and stored. The linear ion detects MS and MS^n spectra at a relatively low resolution and mass accuracy but very high sensitivity. The Orbitrap which is filled by pulse of ions accumulated in the C-trap these ions are then introduced into a space between electrodes tangentially at an offset from the Orbitrap equator. They are then pushed by a strong electrical field inside the trap towards the equator; this then starts up axial oscillations. The rotation of ions around the central electrode results in the formation of a thin ring which oscillates along it with a period proportional to $(m/z)^{1/2}$ and makes an image current on split outer Orbitrap electrodes. The detection of this signal is then followed by a fast Fourier transform (FT) to change the recorded time-domain signal into a frequency, and then into *m*/*z* spectrum (59). The two analysers can be used together or independently, depending on the research question (60).

1.10. Data Processing

Different search engines for example MASCOT, SEQUEST, Paragon™ Algorithm using the Protein Pilot software, PEAKS (also does denovo sequencing) and many more are used to match the raw *m/z* data to the theoretical masses of amino acid sequences found in the database. This then results in the identification of proteins at different confidences. These search engines do this by comparing the measured MS/MS to the theoretical MS/MS spectra calculated from protein sequences in the database (24). These databases can be sourced from for example UniProtKB/Swiss-Prot, UniProtKB/TrEMBLl, EnsEMBL, ReSeq and many more (61).

1.11. Protein Quantification

In addition to identifying proteins of interest, a mass spectrometer is capable of quantifying the relative and even absolute expression level of detected proteins. Methods for acquiring quantitative proteomics data include: label-free quantification, Isotope-coded affinity tags (ICAT), stable isotope labelling by amino acids in cell culture (SILAC), multiple isobaric tags for relative and absolute quantification (iTRAQ) and multiple reaction monitoring (MRM) (62).

Label free quantification involves spectral counting, where protein levels are quantified from different samples based on the number of MS/MS spectra identified from the protein of interest (62). ICAT involves labelling of peptides from two samples with the light and heavy chain (chemically identical tags that only differ by their isotopic composition) from the ICAT reagent. This then results in the detection of two peaks for each peptide. The relative abundance of the peptides is then provided by the MS signal areas for low and high mass components of the two peptides. This then leads to the determination of the differences in expression levels of the proteins from the original sample (63).

SILAC incorporates isotopic tags into proteins in cell culture through metabolic labelling. Cell samples of interest are therefore grown separately in media that contains either the light or heavy form of the essential amino acids (those that cannot be synthesised by the cells) (64). iTRAQ can be used to quantify proteins from up to 8 different samples. The samples are labelled with different reagents of the same mass. During fragmentation, MS/MS gives rise to up to 8 unique reporter ions that can be used to quantify all the mixed samples respectively (64). MRM is a targeted proteomics method that is used with a linear ion trap MS, to determine the quantity of specific proteins of interest in a complex mixture. This is achieved by comparing the peak area of the peptide representing the protein of interest to the peak area of stable isotope labelled internal standards (65).

1.10. Objectives

The objective of this project was to establish a reliable set of analytical methods that enable the proteome of liver tissue sourced from Nguni and other cattle breeds such as Hereford to be efficiently profiled. More specifically this work aims to:

- Provide an optimized workflow encompassing protein extraction, clean-up, digestion as well as separation using gel and gel-free methods.
- Compare and contrast a number of methods commonly used for protein as well as peptide separation, including 2DE gel, solution-based IEF, SCX and RP.
- Select the most efficient workflow to be used in the next phase of this project.

CHAPTER 2: MATERIALS AND METHODS

All solutions were prepared using ultra-purified water from a Milli-Q Millipore system (Millipore Corporation, Billerica, MA, USA) to a resistance of at least 18 MΩ. All buffers and solvents used for MS were prepared by using high quality MS-grade ACN, water and formic acid. All chemicals were of research reagent grade.

2.1. Sample Preparation

2.1.1. Protein Extraction and Clean-up

2.1.1.1. Protein Extraction According toXu and Colleagues(26)

A frozen piece (10g) of the Nguni bovine liver tissue (collected from Devon Farm, Gauteng) was homogenized in a blender (Russell Hobbs® 1.5L Blender) and 0.5g was mixed with 2.0 ml lysis buffer containing 8 M urea, 65 mM CHAPS, 65 mM DTT, 50 mM Tris-HCL and cocktail protease inhibitor (Sigma-Aldrich, St. Louis, USA) in a 2.0 ml Eppendorf. The samples were then incubated on ice for 3 hours with occasional vortexing. After the incubation sample tubes were centrifuged on a bench top centrifuge at 13 000 rpm for 15 min at 4 ^{0}C. The supernatant was retained and the protein concentration determined using the Bradford Assay (Bio-Rad, California, USA). To remove salts and contaminants, the Bio-Rad 2-D cleanup kit was used according to the manufacturer's directions as described in 2.1.1.2.

2.1.1.2. Protein Extraction According to Wiśniewski and Colleagues (25)

The liver tissue (500 mg) was homogenised in 0.1 M Tris-HCl, pH 7.6 with cocktail protease inhibitor (Sigma-Aldrich, St. Louis, USA) at 4 ^{0}C. The homogenised tissue was incubated for 1 hour on ice, with occasional vortexing; 0.1 g (10 % w/v) SDS was then added to give a final concentration of 0.02 g (2 % w/v). This was followed by 3 min boiling at 95 ^{0}C. The sample

was sonicated for 15 min using a probe sonicator (Bandelin Electronic, Berlin), centrifuged for 15 min (13 000 rpm) at 4 ^{0}C and then stored overnight at -20 ^{0}C (14-16 hours). On day two 500 µl of the sample was transferred to a new 2 ml Eppendorf and disulfide bridges were reduced for an hour in 25 µl of 250 mM DTT and alkylated in 100 µl of 36 mg/ml iodoacetamie (IAA) for another hour in the dark. It was then further reduced in 100 µl of 250 mM DTT to quench the unreacted IAA (32).

Sample Cleanup:

- The Bio-Rad 2D clean up kit was used to precipitate the sample proteins. The proteins were precipitated according to the manufacturer's instructions (Bio-Rad, California, USA), by adding 300 µl of precipitating agent 1. It was then incubated on ice for 15 min after the incubation; 300µl of precipitating agent 2 was added. The sample was centrifuged for 5 min at 13 000 rpm to form a tight pellet. The supernatant was discarded then 40 µl of wash reagent 1 was added on top of the pellet and the samples were centrifuged at 13 000 rpm for 5 min.

  The wash reagent was removed after centrifugation and 25 µl of ultra-pure water was added on top of the pellet. The sample was then vortexed for 20 sec. 1 ml of reagent 2 (pre-chilled at -20 ^{0}C) and 5 µl of wash 2 additive was added to the sample. After vortexing the samples for 1 min, they were incubated for 1 hour at -20 ^{0}C with vortexing after every 10 min during incubation. After the incubation period, the samples were centrifuged (13 000 rpm) for 5 min and the supernatant was discarded. The pellet was air dried at room temperature for 5 min. The protein pellet was then re-solubilised in lysis buffer (8 M urea, 2 M thio-urea, 32.5 mM CHAPS, 0.01 µl (1% v/v) ampholytes, 65 mM DTT) and the protein concentration was determined using the Bradford Assay (Bio-Rad, California, USA).

- The filter aided sample preparation (FASP) method was used according to Wiśniewski (25). After the protein extraction step proteins were in a solution that contained 2 % SDS which is incompatible with MS. This method involved buffer exchanging the protein sample into 8 M urea. The Amicon Ultra-0.5 3 kDa cut-off device (Millipore Corpoation, Billerica, MA) was used for centrifugal filtration, to remove SDS and other low molecular weight materials. This was repeated until SDS concentration of less than 0.001 µg (0.0001 % w/v) in samples that were going to be analysed via MS. The final SDS percentage was calculated based on SDS starting concentration and the volume of 8 M urea added to the sample during buffer exchange.

  Samples to be analysed by 2DE gels were initially buffer exchanged into 8 M urea for the first two cycles and then buffer exchanged into lysis buffer until the SDS concentration of 0.001% was reached. The initial buffer exchanged into 8M urea was performed because buffer exchanging directly into lysis buffer resulted in yellow sticky material appearing, that blocked the filters of centrifugal devices.

2.1.2. Protein Digestion

2.1.2.1. Protein Digestion in the Presence of RapiGest

RapiGest powder (1mg) was reconstituted in 1 ml of MS grade water. The protein pellet was re-suspended in 36 µl of 0.5M triethylammonium bicarbonate (TEAB) and 4 µl, 1mg/ml RapiGest stock was added to make a final concentration of 0.001 g (0.1 % w/v) RapiGest. The sample was vortexed for 1 min and sonicated by using a bath sonicator (Bandelin Sonerex, Germany) for 5 min on ice. A ratio of 1:20 µg (trypsin: protein) was added and samples were incubated for either 4 or 16 hours. The reaction was stopped by adding trifluoroacetic acid (TFA) to a final concentration of 5 µl (0.5% v/v). After the termination of the reaction the samples were

centrifuged at 13 000 rpm at 4 ^{0}C for 10 min then the supernatant was transferred into a new Protein Lobind tube (Eppendorf, Hamburg, Germany).

2.1.2.2. Protein Digestion in the Presence of PPS

1 mg 3-[3-(1,1-bisalkyloxyethyl)pyridine-1-yl] propane-1-sulfonate (PPS) was reconstituted in 1ml of 0.5M TEAB (triethylammonium bicarbonate) and 40µl of it was added to a 100 µg protein pellet. The sample was vortexed for 1 min and sonicated for 5 min on ice, using a bath sonicator (Bandelin Sonerex, Germany). Trypsin (1:20) (enzyme µg: protein µg) was added to the sample, which was then incubated for 4 and 16 hours. The reaction was terminated by adding 0.25 M HCL and incubating the sample for 1 hour at room temperature. After the termination of the reaction the samples were centrifuged at 13000 rpm for 10 min at 4 ^{0}C and the supernatant was transferred into a new Protein Lobind tube (Eppendorf, Hamburg, Germany).

2.2. Large Scale Proteome Profiling

2.2.1. Gel-Based Method for Protein Separation

2.2.1.1. Two-Dimensional Gel Electrophoresis

a) First Dimension:

Iso-electric Focusing.

Rehydration was performed by using rehydration buffer (8 M urea, 2 M thio-urea, 32.5 mM CHAPS, 0.01 µl (1 % v/v) ampholytes, 65 mM DTT). The rehydration buffer was mixed with the sample that was re-suspended in lysis buffer (8 M urea, 2 M thio-urea, 32.5 mM CHAPS, 0.01 µl (1 % v/v) ampholytes, 65 mM DTT) to make up a total volume of 400 µl for the 18 cm gels. The sample was then pipetted onto an IPG strip holder, and the IPG strip (18 cm in length; linear pH 3-10 (Bio-Rad, California, USA) was placed on this solution, gel facing downwards. Care was taken to avoid trapping air bubbles between the sample and the strip. The strip was totally covered by

dry strip oil in order to prevent the solvent from evaporating. IEF was performed at 20 ^{0}C according to the parameters outlined in table 2.1 on an isoelectronic focusing machine, IPGPhor (GE Amersham, London, UK). After IEF, strips were immediately equilibrated for SDS-PAGE.

Table 2.1: IEF parameters for running liver samples

Steps	Voltage (V)	18cm strip (hr)
Rehydration	0	12:00
1. Step and Hold	250	1:00
2. Step and Hold	500	1:00
3. Step and Hold	1000	1:00
4. Step and Hold	4000	3:00
5. Step and Hold	8000	4:00
Total:		24:00

IPG Strip Equilibration.

The pH 3-10 linear strips (Bio-Rad, California, USA) were equilibrated in 10 ml of buffer (6M urea, 0.3 ml (30 % v/v) glycerol, 50mMTris-HCL pH 8.8, 0.001 g (0.01 % w/v) bromophenol blue, 0.02 g (2 % w/v) SDS). This buffer is responsible for changing the focused proteins into SDS-protein complexes, that are negatively charged and completely unfolded (66). In the initial equilibration step 100 mg of DTT reducing agent, was added to the buffer and the strips were equilibrated for 15 min. The second equilibration step was also carried out for 15 min where DTT was substituted with 250 mg of the alkylation agent, IAA. When the cysteines are completely alkylated the sharpness of the protein spots is increased and horizontal lines across the SDS gel in the 40 to 50 kDa region are avoided (67).

b) Second Dimension:

Sodium Dodecyl Sulfate PolyAcrylamide Gel Electrophoresis (SDS-PAGE)

An 18 cm, 12 % acrylamide gel (1.0 mm thickness) was prepared by using acrylamide/bis-acrylamide 30 % solution (Sigma-Aldrich, St. Louis, USA), 1.5 M Tris-HCL, 0.1 g (10 % w/v) SDS, 0.1 g (10 % w/v) ammonium persulfate (APS) and 0.1 ml (10 % v/v) Tetramethylethylenediamine (TEMED). The gel was cast up right and allowed to polymerize for a minimum of 4 hours at room temperature. The polymerisation reaction, where monomeric acrylamide forms polymeric polyacrylamide chains that cross-link by N, N'-methlenebisacrylamide, was initiated by the APS and the TEMED accelerated the reaction (67).

The water-soluble butanol was used to thinly cover the top surface of the gel, to protect it from oxygen which inhibits the polymerization process (67). Butanol was thoroughly rinsed out with distilled water before the gel was used. The equilibrated IPG strip was placed on the acrylamide gel surface (gel side facing out) and slightly warm agarose sealing solution (0.005 g (0.5 % w/v) agarose, 0.0001 g (0.01 % w/v) bromophenol blue tracking dye, 1 X concentration of SDS cathode buffer) was added and allowed to cool for 3 min. The 10 X concentration of the SDS cathode buffer contained: 0.25 M Tris-base, 1.92 M glycine and 0.01 g (1 % w/v) SDS made up to 1 ml by deionised water.

SDS-PAGE gels were run at a constant current of 45 mA /gel for 18 cm gels until the bromophenol blue dye front reached the bottom of the gel. The gels were then stained with different stains as listed below according to requirements. After terminating the staining, all the Coomassie and Silver stained gel images were captured on the Pharos FX^{TM} Plus molecular imager (Bio-Rad, California, USA) using the Quantity one software (v 4.6.1) (Bio-Rad, California, USA). The Oriole^{TM} fluorescent gel stain images gels were taken by using the Imaging® ChemiDoc^{TM}XRS^{+} imaging system (Bio-Rad,

California, USA). All gels were then analysed on PDQuest Basic software (v8.0.1) (Bio-Rad, California, USA).

Silver Nitrate Staining

After fixing the 18 cm gels for 16 hours in 500 ml of the fixing solution (0.4 ml (40 % v/v) ethanol, 0.1 ml (10 % v/v) acetic acid), the gels were washed with 500 ml of 0.3 ml (30 % v/v) ethanol for 30 min followed by a double distilled water (ddH_2O) wash for at least 40 min. The gels were sensitized in 500 ml of 0.0002 g (0.02 % w/v) sodium thiosulfate for 1 min and rinsed with ddH_2O three times for 20 sec. The gels were incubated for 20 min in 500 ml of 0.001 g (0.01 % w/v) silver nitrate solution with 0.0002 ml (0.02 % v/v) formaldehyde that was pre-chilled at 4 ^{0}C, and washed three times in ddH_2O for 20 sec. It was developed in 500 ml of 0.03 g (3 % w/v) sodium carbonate with 0.0005 ml (0.05 % v/v) formaldehyde until all the protein spots had appeared then rinsed three times in ddH_2O for 20 sec. The staining was terminated in 500 ml of 0.05 ml (5 % v/v) acetic acid for 5 min.

Colloidal Coomassie Blue Staining

After SDS-PAGE, the 7 cm gel was rinsed twice with ddH_2O; each rinse was 3 min long. 50 ml of the Coomassie Blue working solution (0.1 g (10 % w/v) ammonium sulfate, 0.03 ml (3 % v/v) ortho-phosphoric acid and 0.2 ml (20 % v/v) ethanol) was added to the gel for overnight (12-16 hours) staining. In day 2, 50 ml of ddH_2O was used to de-stain the gel. These gels were stained with Coomassie blue stain because the gels bands are big and don't require a highly sensitive stain for them to be visualised.

Oriole^{TM} Fluorescent Gel Stain

Directly after running the gel, it was transferred to a clean tray that contained 500 ml of ready to use stain which was enough to cover the gel (18 cm). The fixing and rinsing steps were omitted as they decrease the sensitivity of stain. The tray was then covered with foil to exclude the light; the gel was stained

for 90 min according to the manufacture's direction (Bio-Rad, California, USA). The gel was transferred into a tray that contained water prior to imaging using a Molecular Imaging® ChemiDoc^{TM}XRS^{+} imaging system (Bio-Rad, California, USA).

2.2.2. Solution-Based Methods for Peptide Separation

2.2.2.1. Solution Phase Iso-electric Focusing

Peptide samples were fractionated on a Micro-Rotofor (Figure 2.1), according to the manufacturer's directions (Bio-Rad, California, USA). The ion exchange membranes were soaked for equilibration in the electrolyte solutions (100mM phosphoric and 100mM sodium hydroxide) overnight (12-16 hours). The cation exchange membrane (black membrane) was soaked in 100 mM phosphoric acid and the anion exchange membrane (red membrane) soaked in 100mM sodium hydroxide. The electrode assemblies were placed on each end of the focusing chamber with the ion exchange membranes placed between the focusing chamber and the electrode assemblies. The focusing chamber holes were covered with tape on one side, to prevent sample loss during the loading process.

Samples were dried under vacuum (CentriVap concentrator: Laconco, Fort Scott, USA) and re-suspended in 3 ml of 0.008 ml (0.8 % v/v) ampholytes and MilliQ water. Different protein amounts were initially trypsin digested (50 µg, 100 µg and 200 µg). These experiments were later repeated using one 50 µg and two 100 µg runs (referred to as first 100 µg and second 100 µg run). The different amounts of the peptide sample (50 µg, 100 µg and 200 µg) were each loaded on the fractionation cell until each fraction was full. The peptides were then focused at a constant power of 1W for 2 hours. The 10 fractions harvested from the chamber were then dried under vacuum (CentriVap concentrator: Laconco, Fort Scott, USA) and re-suspended in appropriate solvent for further fractionation on a RP column coupled to an AB Sciex QSTAR Elite MS.

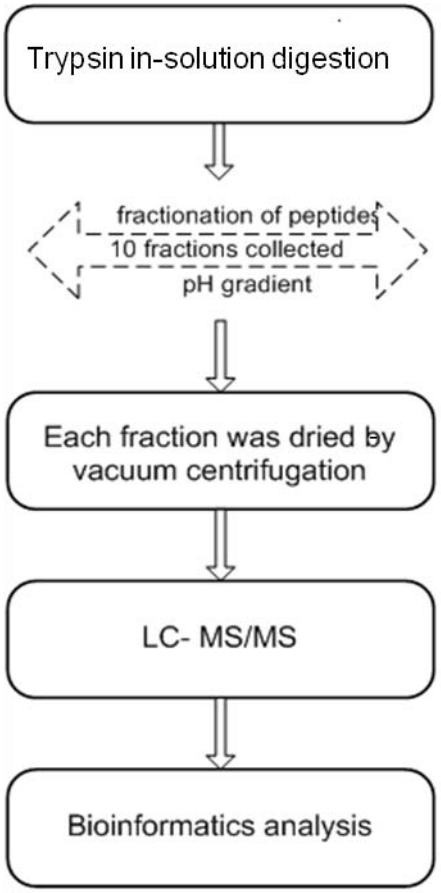


Figure 2.1: Flow diagram summarising the analytical workflow of peptide fractionation using a Micro-Rotofor (Source:(21)).

2.2.2.2. Strong Cation Exchange Chromatography

Protein samples (100 µg) were trypsin digested for 16 hours in the presence of PPS as described above (2.1.2.2). Samples were then vacuum dried and re-suspended in 20 mM NaH_2PO_4 (sodium phosphate), pH 2.6; 0.1 ml (10 % v/v) ACN and 0.04 M NaCl (sodium chloride). 20 µg was then loaded onto a 1.0mm x 15 cm Polysulfoethyl-Asp column (Dionex, California, USA) connected to a Dionex Ultimate 3000 RSLC UV detector and fractions were collected, at 1 min intervals, into a 96 deep well plate. The fractions were collected by time not peaks.

Peptide elution was achieved using a flow-rate of 50 µl/min with a linear 15 min, as well as 30 min, gradient (4-94 % B; A: 20 mM NaH_2PO_4, 0.1 ml (10 % v/v) ACN pH 2.6; B: 20 mM NaH_2PO_4, 0.1 ml (10 % v/v) ACN, 1 M NaCl pH 2.6). Only fractions that displayed peaks on the chromatogram were selected and dried under vacuum (CentriVap concentrator: Laconco, Fort Scott, USA) for further separation on the second dimension.

2.2.2.3. High pH Reverse Phase Chromatography

The tryptic peptides (100 µg) were re-suspended in 20 mM ammonium hydroxide (NH_4OH)/formic acid pH 9.6 containing 0.032 ml (3.2 % v/v) ACN. Samples (20 µg) were loaded on a 1.0 mm x 15 cm Acclaim^{TM} PA II column (Dionex, California, USA) connected to a Dionex Ultimate 3000 RSLC UV detector and fractions were collected, at one minute intervals, into a 96 deep well plate. The fractions were collected by time not peaks. Peptide elution was achieved using a flow-rate of 50 µl/min with a linear 15 min, as well as 30 min, gradient (4-94 % B; A: 20 mM NH_4OH pH 9.6; B: 0.8 ml (80% v/v) ACN 20 mMNH_4OH pH 9.6).Only fractions that displayed peaks on the chromatogram were selected and dried under vacuum (CentriVap concentrator: Laconco, Fort Scott, USA) for further separation on the second dimension as described below.

2.2.2.4. Low pH Reverse Phase Chromatography Coupled to Mass Spectrometry

The dried samples from the first dimensions were re-suspended in 0.02 ml (2 % v/v) ACN/0.002 ml (0.2 % v/v) FA and analysed using Dionex Ultimate 3000 nanoRSLC system coupled to a QSTAR ELITE mass spectrometer. Samples were de-salted on an Acclaim PepMap C18 trap (75 µm x 2 cm) for 8 min at 5 µl/min using 0.02 ml (2 % v/v) ACN / 0.002 ml FA. Peptides were separated on an Acclaim PepMap C18 RSLC column (75 µm x 15 cm, 2µm particle size) connected to the trap column via a 10-port switching valve. Peptide elution was achieved using a flow-rate of 5 µl/min with a gradient of 4

to 60 % B in 40as well as 60 min (buffer A: 0.001 ml (0.1 % v/v) FA; buffer B: 0.8 ml (80 % v/v) ACN/0.001 ml (0.1 % v/v) FA).

Nano-spray was achieved using a micro ion spray head assembled with a New Objective PicoTip emitter (F3960-20-10-N-5-C15-Silica tips: 360 um OD, 20 um ID, 10 um tip ID, non-coated, 5 tips per box, 15 cm length) (New Objective: New Jersey, USA). An electrospray voltage of 2.0 - 2.8 kV was applied to the emitter. The QSTAR ELITE mass spectrometer was operated in Information Dependant Acquisition (IDA) using an exit factor of 7.0 and maximum accumulation time of 2.5 sec. MS scans were acquired from m/z 400 to m/z 1500 and the three most intense ions were automatically fragmented in Q2 collision cell using nitrogen as the collision gas. Collision energies were chosen automatically as a function of mass and charge.

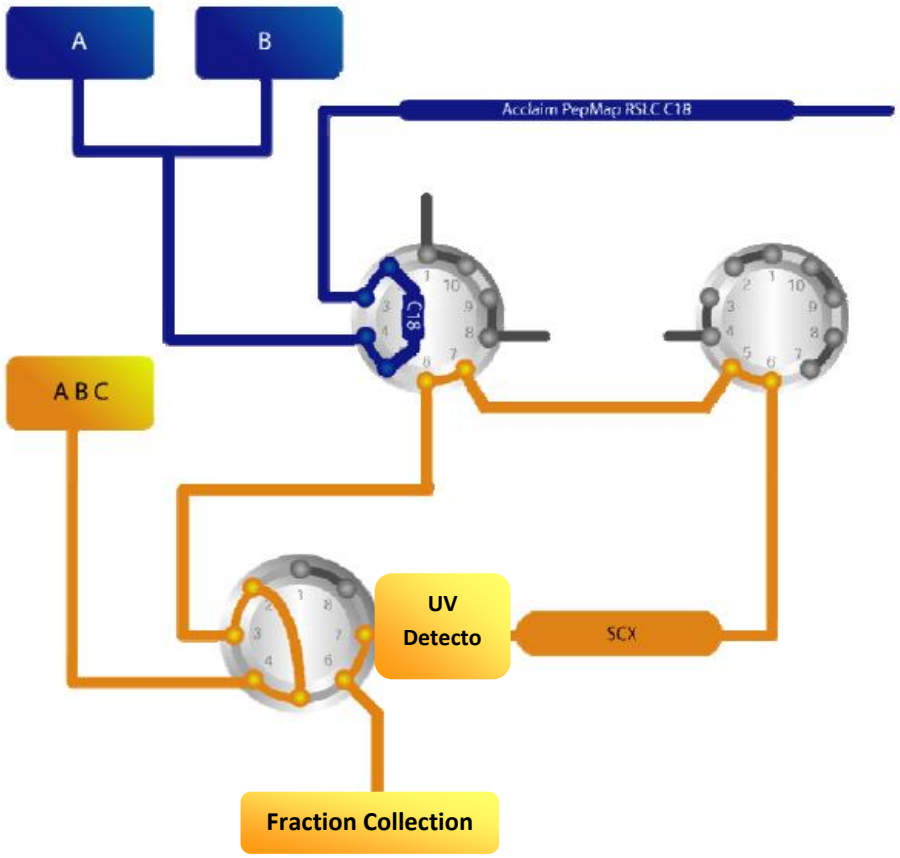


Figure 2.2: Flow diagram for off-line RP-RP and SCX-RP (Source:(58)).

The orange section of the diagram shows how the first dimension (high pH RP or SCX) was connected. The ABC represents the ternary loading pump. The blue section shows the connection of the second dimension (low pH RP). A and B indicate the binary nano pump.

2.2.3. Data Analysis

Protein Pilot

Protein identification was performed usingUniprot_BOVIN_24-10-11; ABSciex_ContaminantDB_20070711.fasta database and the Paragon™ Algorithm *Thorough* search in Protein Pilot v 4.Trypsin was selected as the digestion enzyme, urea denaturation as a special factor and detected protein threshold (unused protscore (confidence)) was set to >1.30 (95.0%).The proteomics system performance evaluation pipeline Software (PSPEP) was used to determine the false discovery rate (FDR) (scoring function which checks the matching quality between a peptide and an MS/MS spectrum) from the Paragon ™ Algorithm results. FDR estimation is a more accurate way for establishing the error estimation, than examining only relatively good identification above a fixed threshold (68).

PEAKS v 6

The same database as the one that was used in Protein Pilot (Uniprot_BOVIN_24-10-11 and ABSciex_ContaminantDB_20070711.fasta) was used for PEAKS v6 searches. The parent and fragment mass error tolerance was selected to be 0.1 Da, a maximum of 3 missed cleavages was selected and 670 variable modifications were run with a maximum of 3 variable post translational modification per peptide. The peptide spectral matches were all reported at 0.1% FDR with ≥ 1 unique peptide per protein.

2.3. Project Summary

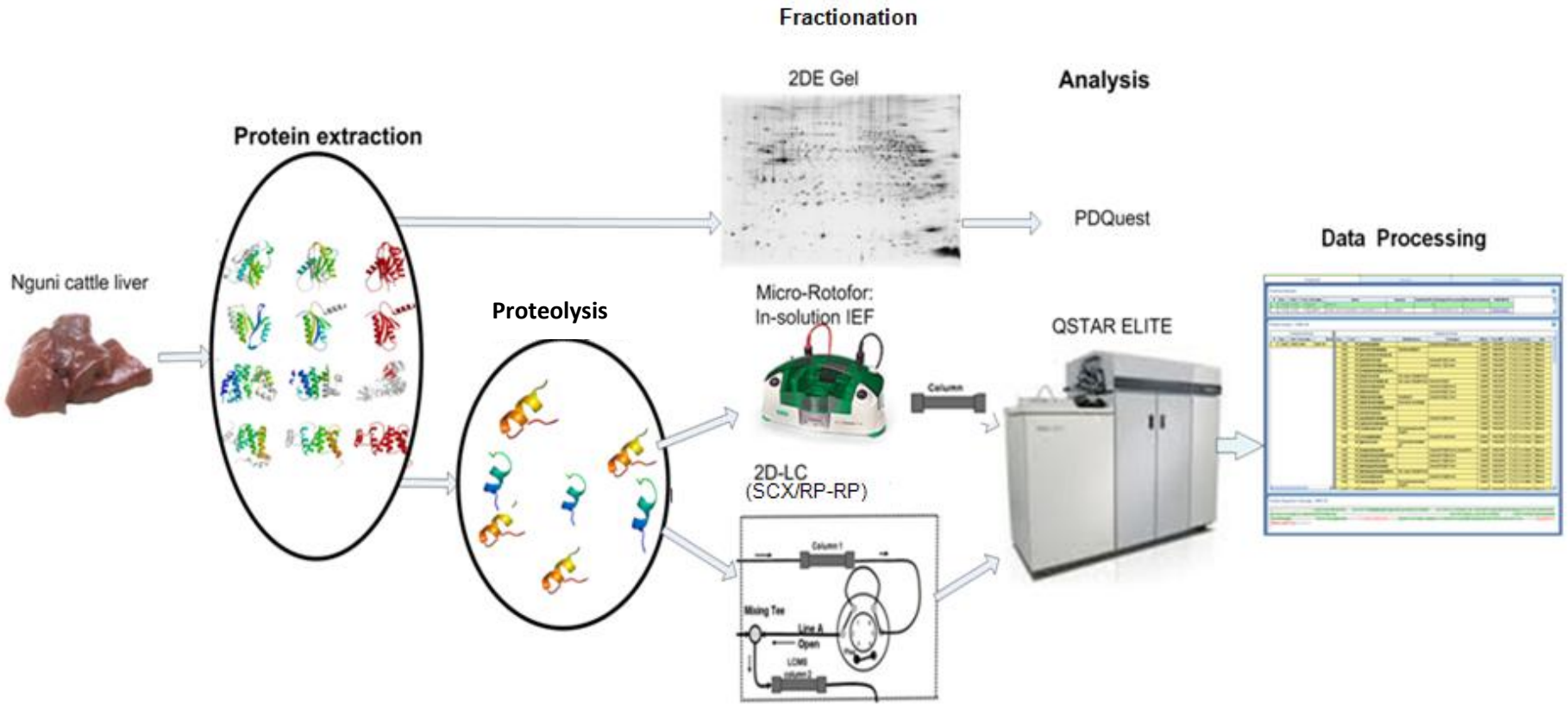


Figure 2.3: Project workflow summary

CHAPTER 3: RESULTS

3.1. Sample Preparation

3.1.1. Comparison of Extraction Methods

In protein biomaker discovery studies, determining which extraction method should be used is the initial and one of the most important steps (24). In this study two extraction methods were compared, the first method was used according to Xu and colleagues (26) where proteins were extracted in the presence of a strong chaotropic reagent.

The second method which was used according to Wiśniewski and colleagues (25), involved protein extraction by boiling the sample in the presence of 2 % SDS and decreasing the SDS concentration to acceptable amounts by buffer exchanging the sample into SDS free buffer, referred to as the filter aided sample preparation (FASP) method (25). Each extraction was done in duplicate and the Bradford Assay was used to determine the protein concentration. In total 12.34 µg/µl and 17.09 µg/µl of protein was extracted using the FASP method, 12.69 µg/µl and 9.74 µg/µl of protein was extracted using the (26) method.

The extraction efficiency was monitored via SDS-PAGE (Figure 3.1). After protein extraction, an amount of 30 µg total protein was loaded into each lane. In spite of equal loading, samples extracted using the FASP method resulted in more intense bands than those extracted using the (26) method. In addition, there were a number of bands present in the FASP-extracted samples that were absent in the (26) method (Figure 3.1).

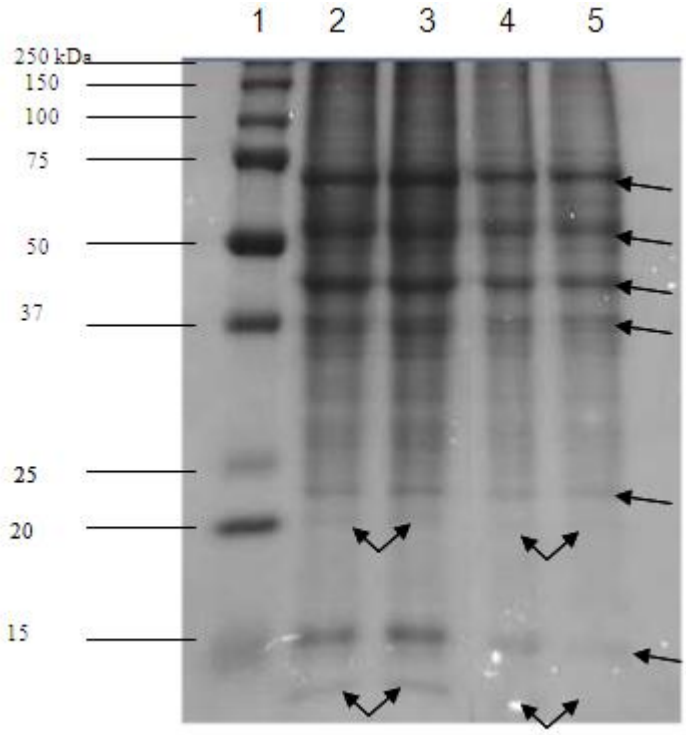


Figure 3.1: Coomassie stained 12% SDS-PAGE

An amount of 30 µg total protein from liver tissue was loaded in each sample lane. The protein marker (dual colour prestained Precision PlusProtein™ Standard from Bio-Rad, California, USA) was loaded in lane 1. Proteins extracted by using the FASP method were loaded in lane 2 and 3. Proteins extracted by using the method according to (26), were loaded in lane 4 and 5. The single and double arrows point to protein bands that clearly show the differences between the two extraction methods.

3.1.2. Optimisation of Protein Digestion

In order to achieve complete digestion two MS compatible detergents were tested i.e. PPS (Protein Discovery, Knoxville, USA) and RapiGest (Waters, Milford, MA, USA). In addition the length of digestion was also optimized. Digestions were performed for 4 and 16 hours, samples were subsequently analysed via SDS-PAGE. A faint 20 kDa protein band was observed in all the lanes that had samples digested for 4 hours (see Figure 3.2), indicating incomplete proteolysis. Very faint bands were observed in lanes digested for 16 hours. To verify which conditions resulted in optimal protein recovery, the protein mixtures digested overnight (12-16 hours) in the presence and

absence of detergents were analysed via Liquid Chromatography (LC) tandem Mass Spectrometry (MS/MS).

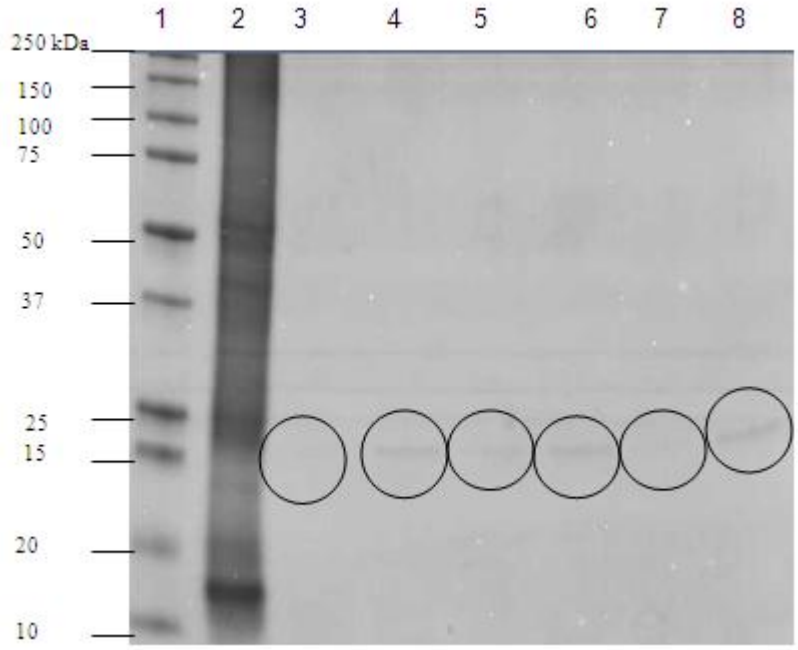


Figure 3.2: Coomassie stained Bio-Rad precast gradient SDS-PAGE

An amount of 30 µg total protein from liver tissue was loaded in each sample lane. The marker (dual colour prestained Precision Plus Protein™ Standard from Bio-Rad, California, USA) was in lane 1, undigested protein sample in lane 2, 16 hours digestion in the presence of PPS lane 3, 4 hours digestion in the presence of PPS in lane 4, 16 hours cleavage in the presence of RapiGest in lane 5, 4 hours digestion in the presence of RapiGest in lane 6, 16 and 4 hours cleavage in the absence of PPS or RapiGest in lane 7 and 8, respectively.

Figure 3.3 (a, b and c) show the total ion chromatograms of samples digested in the absence and presence of PPS and RapiGest. The X-axis represents time (min) and the Y-axis represents intensity (counts per second: cps). Samples digested in the presence of PPS had the highest intensity followed by those that contained no detergent then those that had RapiGest. It was observed that for the RapiGest samples, peptides eluted later than expected at high ACN concentrations.

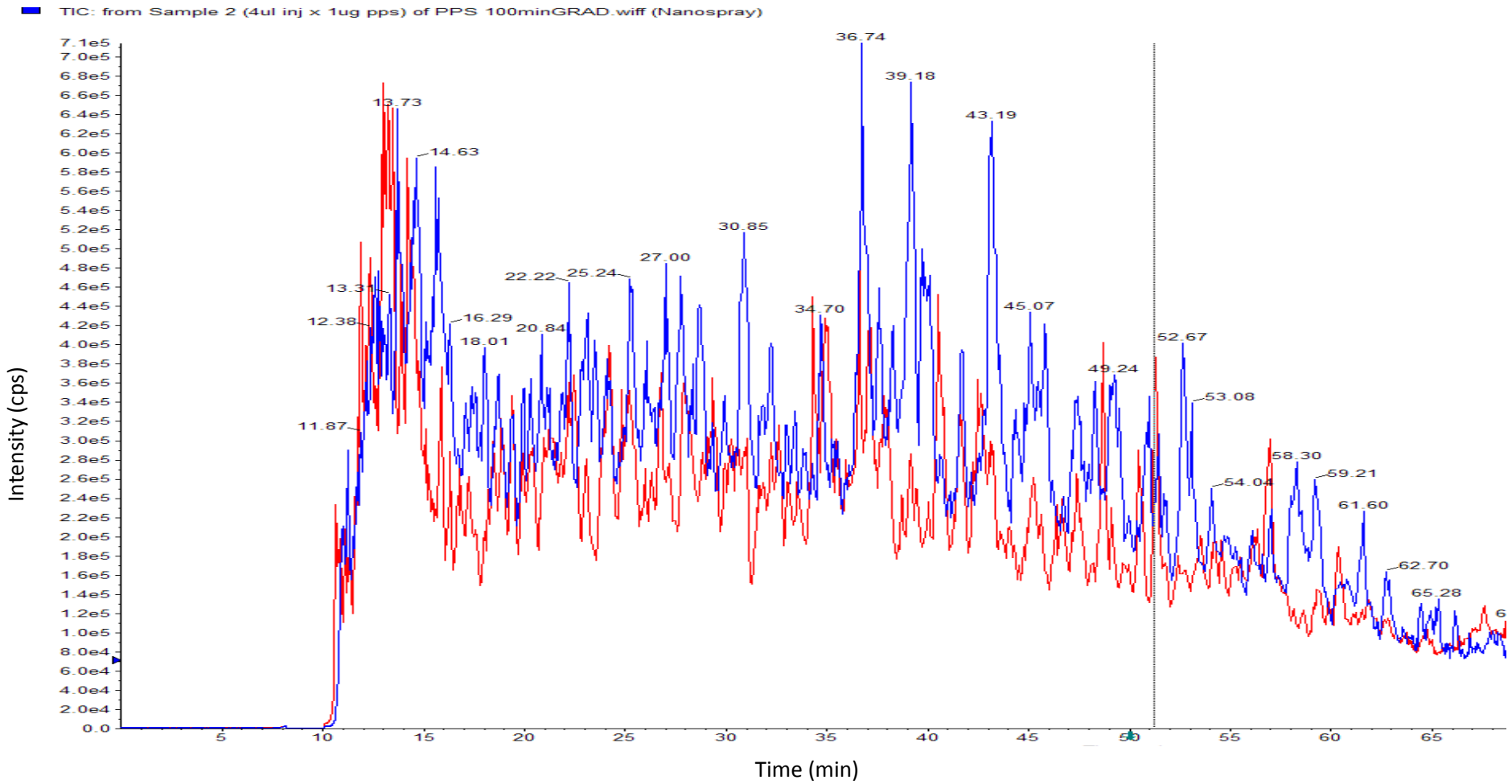


Figure 3.3a: Total ion chromatograms of trypsinised peptides from 100µg protein mixture extracted from liver tissue in the absence of detergents.

Trypsin digestion was carried out in the absence of detergents. Technical replicates are shown in blue and red.

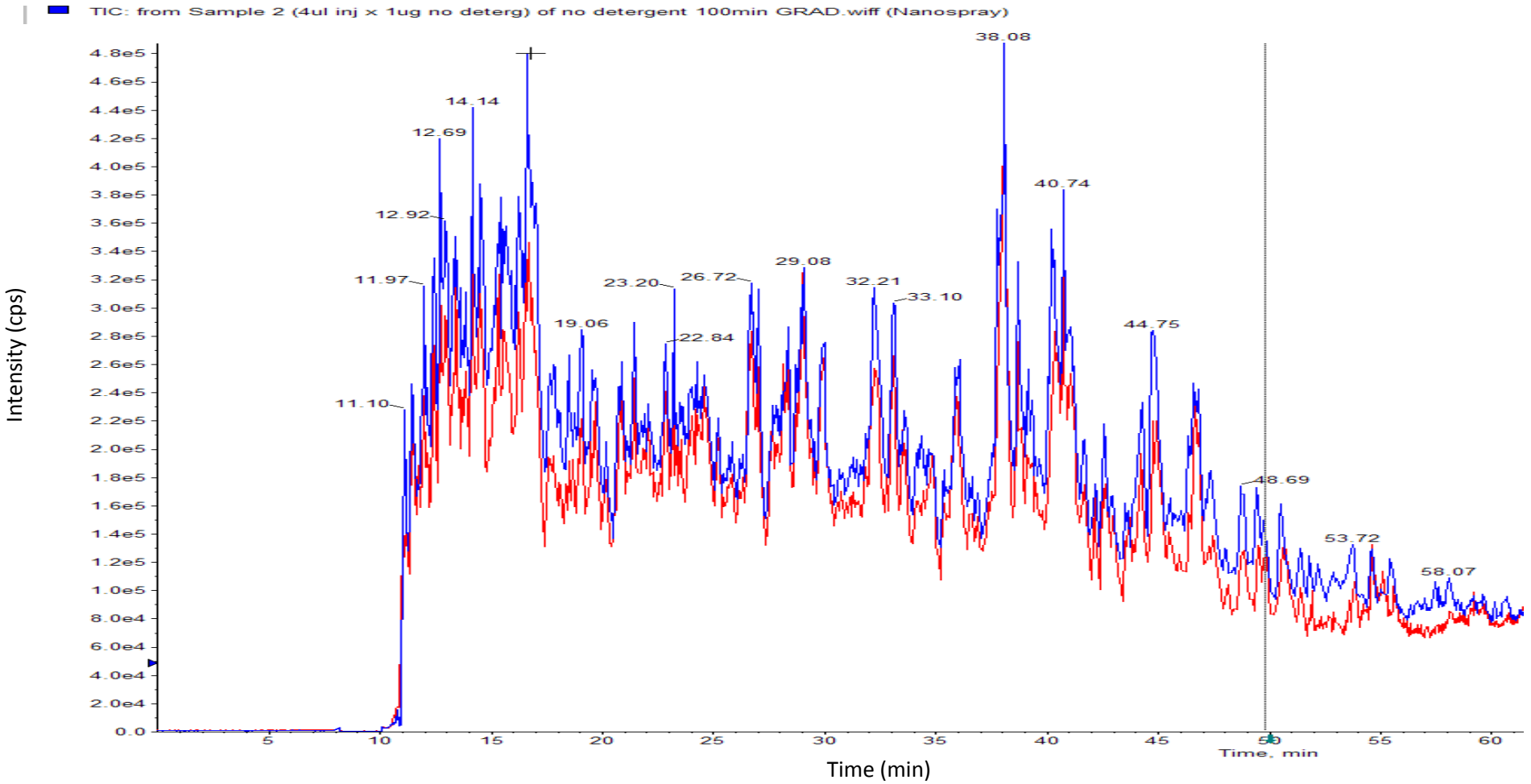


Figure 3.3b: Total ion chromatograms of trypsinised peptides from 100µg protein mixture extracted from liver tissue in the presence of PPS.

Trypsin digestion was carried out in the presence of the surfactant PPS. Technical replicates are show in blue and red.

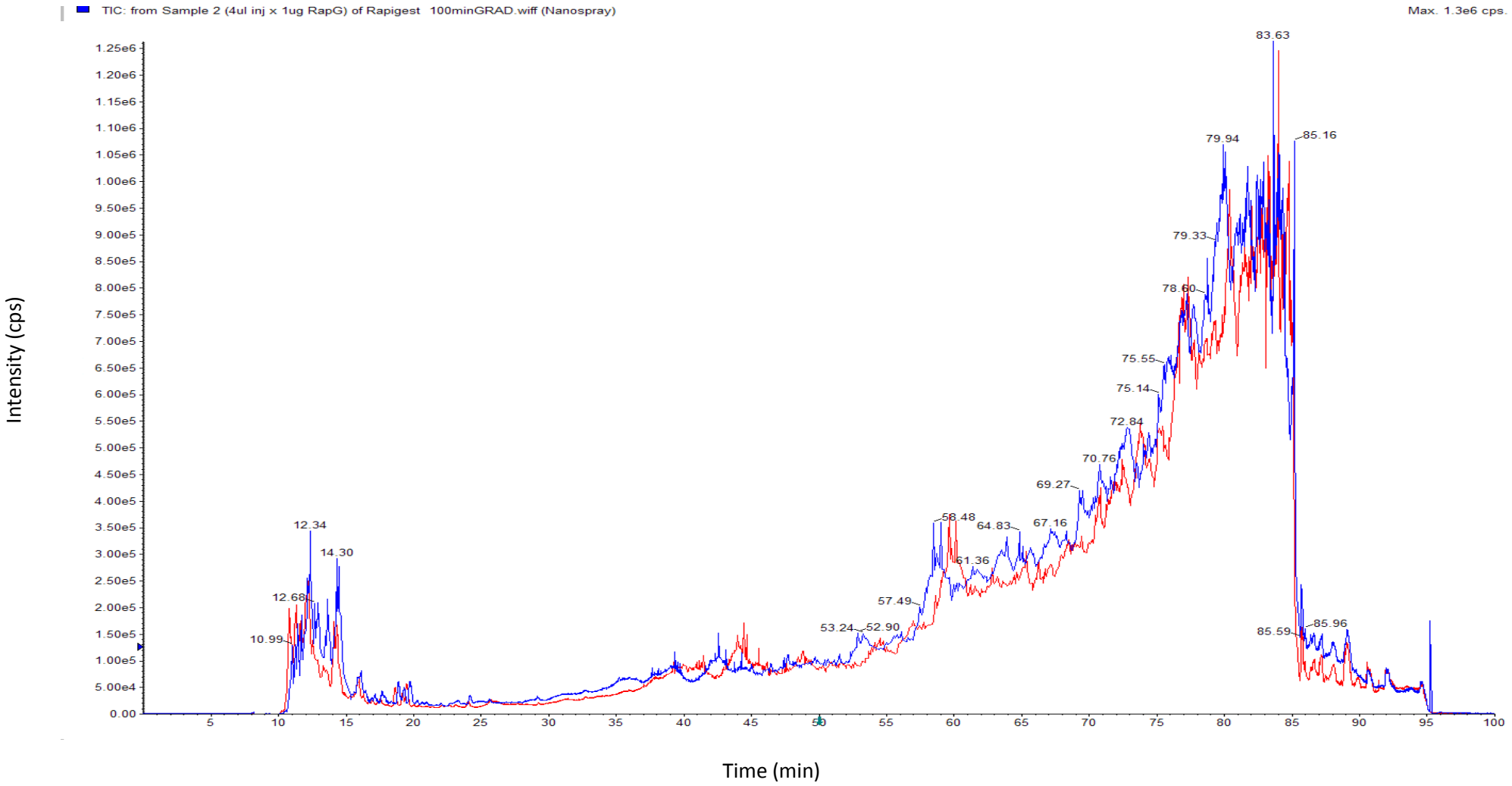


Figure 3.3c: Total ion chromatograms of trypsinised peptides from 100µg protein mixture extracted from liver tissue in the presence of RapiGest.

Trypsin digestion was carried out in the presence of the surfactant RapiGest. Technical replicates of each condition are show in blue and red.

The resulting LC-MS/MS runs were processed using the Paragon^{TM} database search algorithm of Protein Pilot v 4.0 (ABSciex, California, USA). The PPS digested sample had the highest number of proteins identified (384 at 1% FDR) then those identified in the absence of detergents (257 at 1% FDR). Those that were digested in the presence of RapiGest had the lowest number of proteins identified (183 at 1% FDR) (see Figure 3.4). PPS was chosen and used in the experiments that followed.

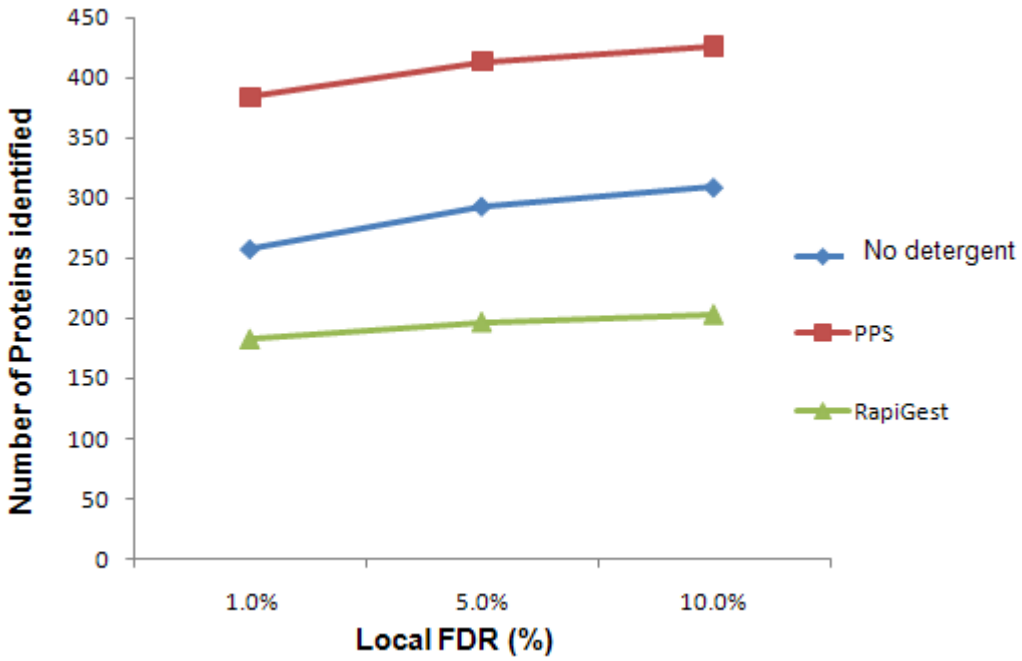


Figure 3.4: Number of proteins identified at different local FDR percentages

Number of proteins identified at 1%, 5% and 10% local FDR percentages for protein samples digested in the absence and presence of the detergents PPS and RapiGest.

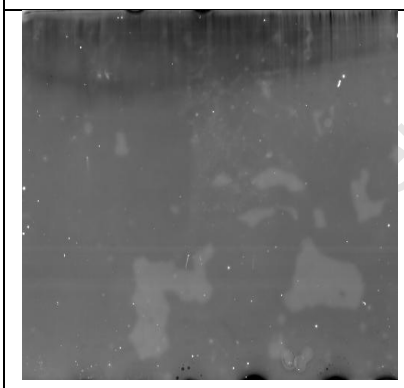
3.2. Gel-Based Method for Protein Separation

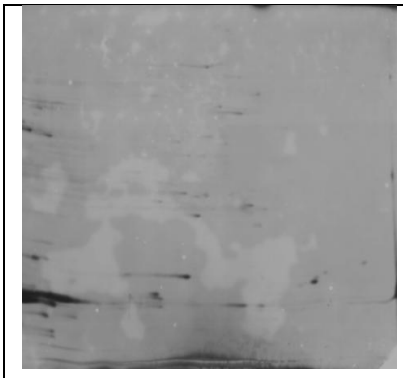
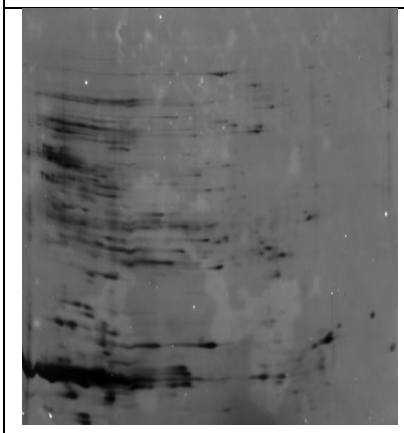
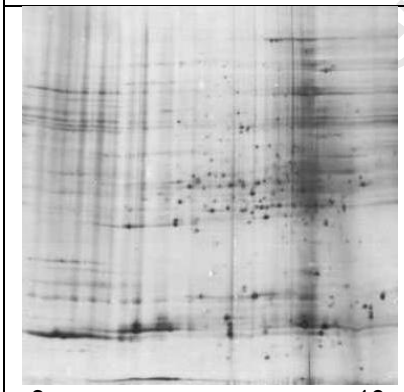
3.2.1. Two Dimensional Electrophoresis

a) Optimisation

Two dimensional gel electrophoresis involves separating proteins initially on an IPG strip based on their iso-electric points (pI) (33), these proteins are then further separated based on their size in a polyacrylamide gel (34). During optimisation 18 cm IPG strips, pH range of 3-10, as well as 18 cm gels were utilized. To visualise the protein spots all the gels were silver stained. Various problems were encountered during the optimisation of this technique. These problems are listed in table 3.1 and were resolved according to the troubleshooting suggestions outlined in (66, 69).

Table 3.1: Silver stained 2DE gels of 100 µg protein mixture from liver tissue

Gel image	Problem encountered and possible reason/s	Solutions
 3 10	-No protein spots visualised Could have been due to protein degradation -IPG strips could have been expired	-Re-extracted the proteins -Ensured that the protein Samples were stored at -80^{o}C -Checked the expiry date of the IPG strips

 3 10	-Few protein spots identified -Could be have been due to protein aggregation during the rehydration step in the first dimension	- The rehydration buffer was prepared the same way as the buffer in which the proteins were re-suspended in (8 M urea, 2 M thiourea , 2 % CHAPS, 1 % ampholytes pH 3-10, 65 mM DTT)
 3 10	-Horizontal streaks - Could have been due to under focusing or steady state focusing was not achieved due to impurities in the sample buffer	-In the buffer exchange step, the number of cycles was increased from 2 to 4; this also led to further removal of SDS to a final concentration of 0.001% -Increased focusing period (from 22 hours to 24 hours)
 3 10	-Vertical streaks -Could have been due to bubbles trapped between the gel of the second dimension and the IPG strip gel -Crystallisation of the urea on the IPG strip surface	-Ensured that there are no bubbles between the IPG strip gel and the second dimension gel -Before placing the IPG strip on the second dimension gel it was ensured that the residual equilibration buffer is properly drained

b) Optimised Gels

After the optimisation, four 18 cm 2DE gels were run parallel to each other. Two of the gels were silver stained (Figure 3.5) and the other two were stained using the fluorescent stain Oriole^{TM} (Figure 3.6). After making the above-mentioned changes (table 3.1), significant improvements were observed. More protein spots were visualised along with decreased streaking.

The gels were analysed using PDQuest software (Bio-Rad, California, USA), which enabled the number of protein points in each gel to be counted. From the two gels (experimental replicates) that were Silver stained, 565 protein spots were manually matched (i.e. protein spots that were present in both gels) (Figure 3.8) to create a master gel that only consisted of matching protein spots (master gels (c) and (f) (Figure 3.5 and 3.6). The steaks were removed and the speckles were filtered, to allow for a more accurate calculation of the number of protein spots in the gels. Only 377 protein spots, between the two gels (experimental replicates) that were stained with the fluorescent dye, Oriole^{TM}, (Figure 3.9, h and f) were matched. The number of spots matched is based on the hypothetical assumption that all spots identified by silver and Oriole^{TM} staining can subsequently be confirmed by MS.

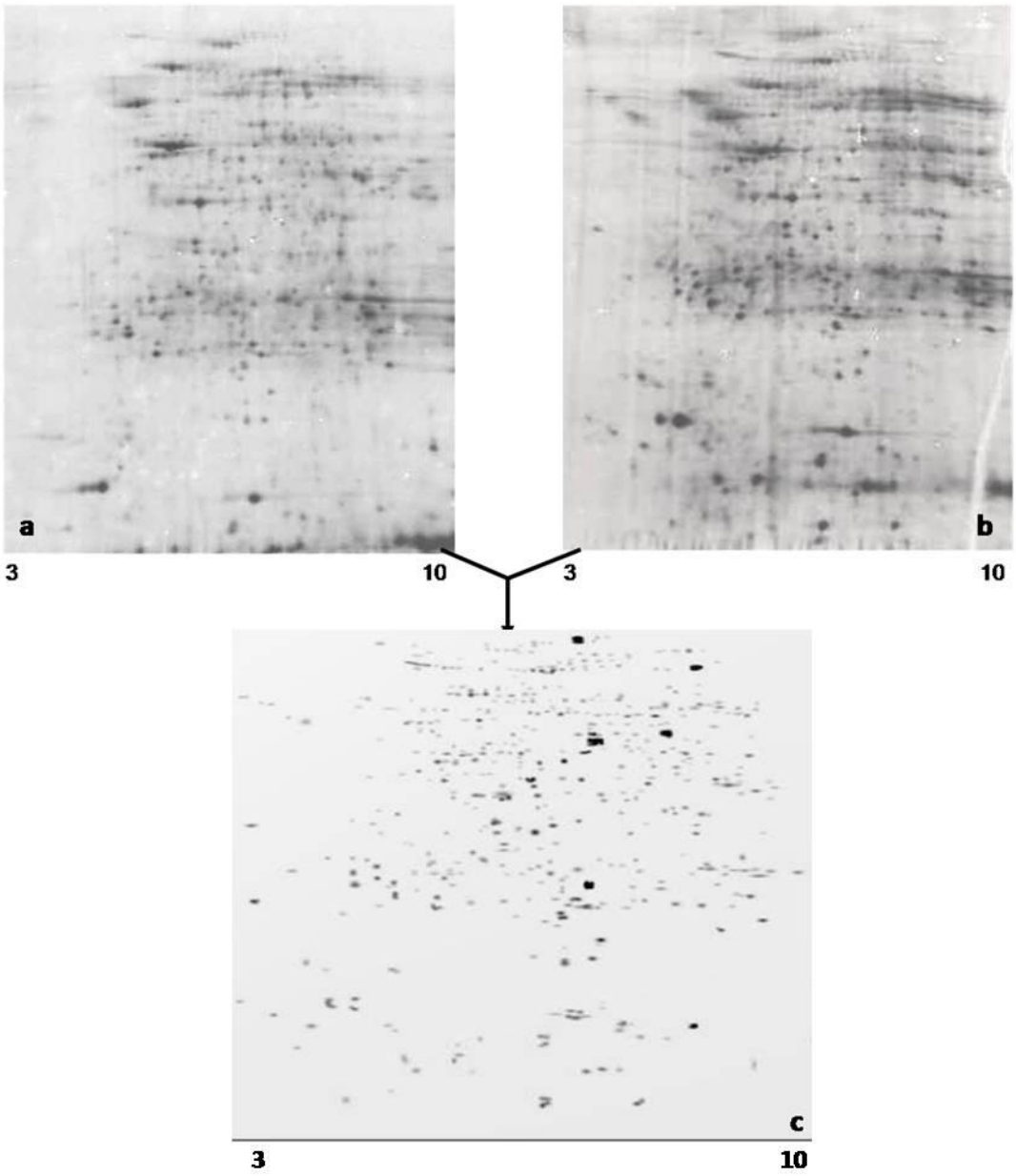


Figure 3.5: Silver stained 2DE gels of 100 µg protein mixtures

First dimension separation (IEF) was performed using 18 cm IPG strips, pH 3-10. Second dimension proteins were separated on an 18 cm, 12 % acrylamide gel (1.0 mm thickness) (a and b) and master gel (c) of gels a and b constructed using the PDQuest software.

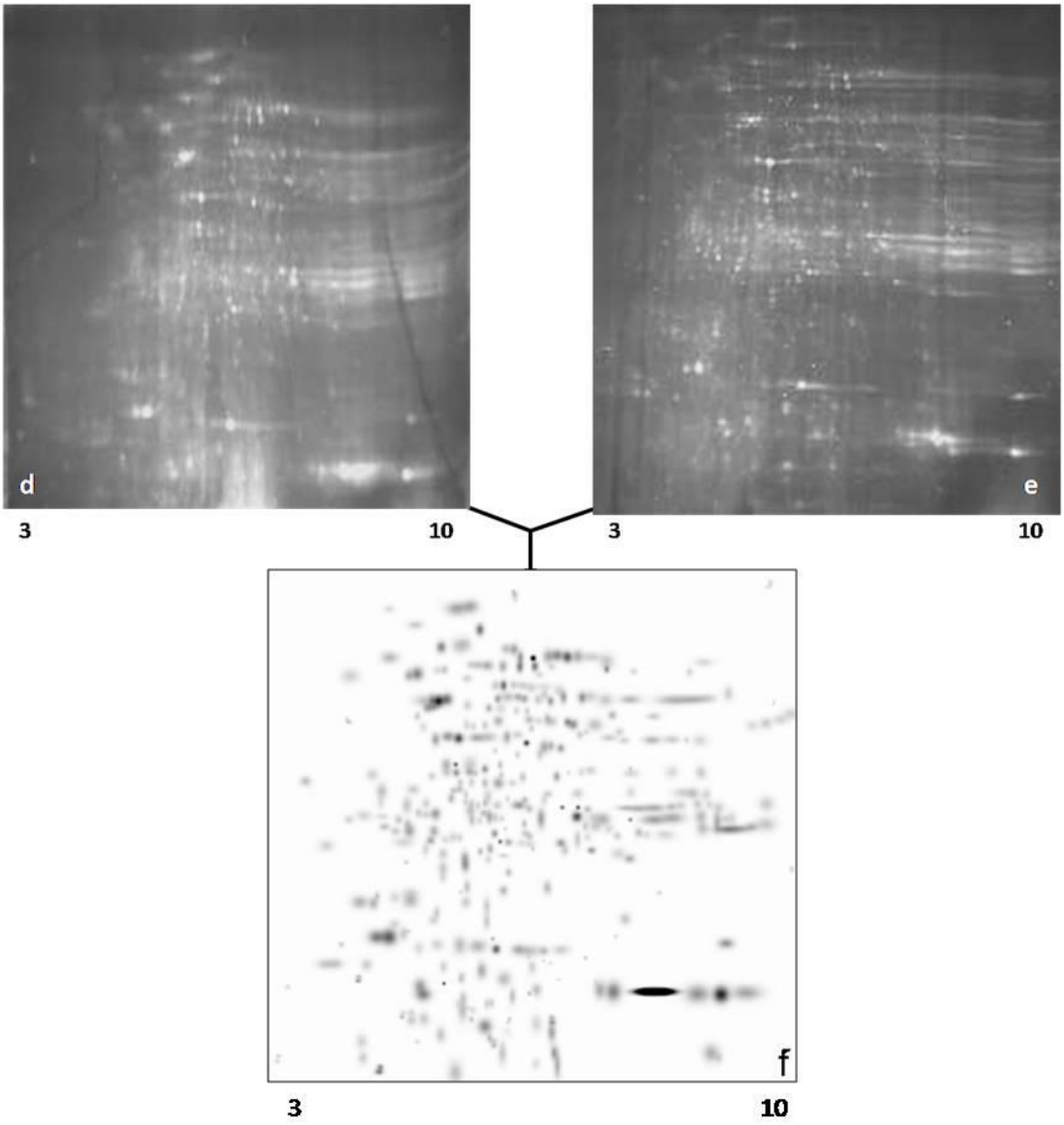


Figure 3.6: Oriole stained 2DE gels of 100 µg protein mixtures.

First dimension separation (IEF) was performed using an 18 cm IPG strip, pH 3-10. Second dimension proteins were separated on an 18 cm, 12% acrylamide gel (1.0 mm thickness) (d and e). Master gel (f) of gels d and e constructed using the PDQuest software.

3.3. Solution-Based Peptide Separation

3.3.1 Solution-Phase Iso-electric Focusing

a) Determination of amount to load in the Micro-Rotofor fractionation cell

The solution phase IEF method separates complex peptide mixtures by exploiting their amphoteric nature. Carrier ampholytes were added to the peptide mixture and then an electric power of 1 W was applied. As a result, peptides migrated until they reached a point where their net charge was zero (70). The optimal peptide loading amount, which affects the separation efficiency of this method, was determined by initially comparing three amounts (50 µg, 100 µg and 200 µg). The effect of the loading amount on the focusing of peptides was also determined (Figure 3.7).

The pie charts in Figure 3.7 show the percentage of peptides identified in each fraction except for fractions 1 and 10 which were pooled together during analysis because prior experiments indicated that they contain very few peptides, these two fractions were therefore excluded in Figure 3.7. Based on subsequent RPLC-MS/MS analysis the 100 µg sample had the best peptide distribution followed by the 50 µg sample. The 100 µg amount resulted in the identification of 448 proteins, followed by the 50 µg amount with 430 proteins, whilst 322 proteins were identified from the 200 µg sample.

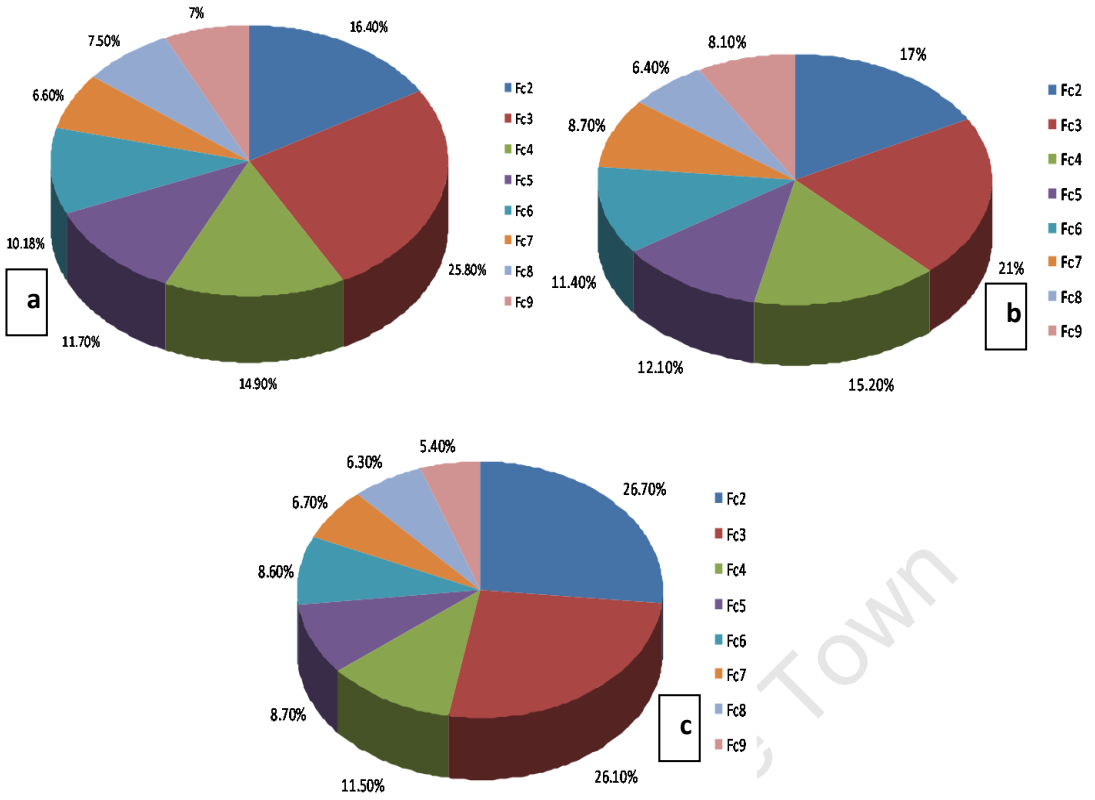


Figure 3.7: Pie charts showing the percentage distribution of unique peptides in each fraction

The percentage distribution of peptides identified in each fraction (Fc) from samples with different amounts of protein ((a) 50 µg (b) 100 µg (c) 200 µg) was plotted, to determine the influence of the peptide loading amount on peptide distribution.

The above experiment was later repeated after the optimisation of the protein digestion, but this time only two amounts that resulted in a higher number of protein identities were considered, 50 µg and 100 µg. The reproducibility of the Micro-Rotofor was determined by fractionating two 100 µg samples independently and further analysing via LC- MS/MS. Further, each fraction was analysed in duplicate via LC-MS/MS to determine the reproducibility of the second dimension. These samples were referred to as: 50 µg R1 (50 µg IEF sample, first MS replicate run), 50 µg R2 (50 µg IEF sample, second MS replicate run), IEF1 100 µg R1 (first 100 µg IEF sample, first MS replicate), IEF 1 100 µg R2 (first 100 µg IEF sample, second MS replicate), IEF 2 100 µg R1 (second 100 µg IEF sample, first MS replicate), IEF 2 100 µg R2 (second 100 µg IEF sample, second MS replicate).The

percentages of unique peptides and proteins were determined (Figure 3.9). Figure 3.8 shows the mean and standard deviation of pI values from different Micro-Rotofor runs. Two 100 µg amounts were fractionated in the Micro-Rotofor to determine the reproducibility of the Micro-Rotofor separation. Figure 3.8 shows that the fractionation pattern of peptides based on the pI and hydrophobicity was the same despite the peptide amount loaded in the fractionation chamber. The pI increased from fraction 4 to 8 and evened out from fraction 9 to 10. Expasy (Expert Protein Analysis System (71)) MW/pI tool was used to determine the pI values of the identified peptides.

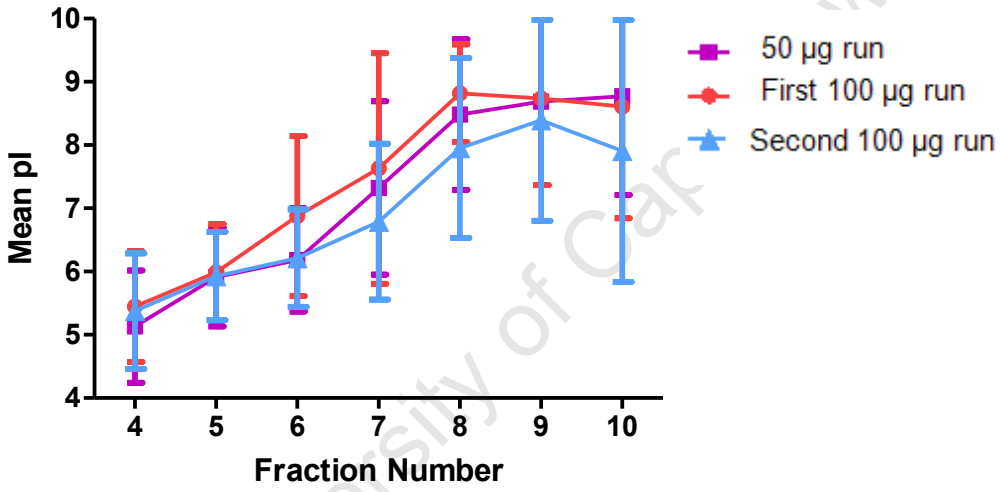


Figure 3.8: Mean peptide pI of the Micro-Rotofor fractions

The 50 µg, first 100 µg, and second 100 µg samples initially fractionated using Bio-Rad Micro-Rotofor then further analysed via LC-MS/MS. Expasy (Expert Protein Analysis System (71)) MW/pI tool was used to calculate the pI values.

Table 3.2 shows the number of peptides and proteins identified via Protein Pilot and PEAKS. Consistent to what was observed in the first experiment, there was very little difference in the number of proteins identified between the 50µg and 100µg samples. On average a 100µg load resulted in slightly higher number of identified peptide as well as proteins.

Table 3.2: Peptides and proteins identified from IEF-RP fractionated samples

Sample	Protein Pilot at Local 1% FDR (corresponding confidence %)		PEAKS (FDR %)	
	Peptides	**Unique Proteins**	**Peptides**	**Unique Proteins**
50 µg R1	3814 (99.4 %)	541 (99 %)	3408 (0.2 %)	534 (0.3 %)
50 µg R2	3948 (99.3 %)	570 (99 %)	4087 (0.2 %)	563 (0.1 %)
IEF 1 100 µg R1	3591 (99.6 %)	545 (99 %)	4000 (0.2 %)	575 (0.0 %)
IEF 1 100 µg R2	3696 (99 %)	558 (99 %)	3973 (0.2 %)	567 (0.1 %)
IEF 2 100 µg R1	3827 (99.3 %)	579 (97 %)	4013 (0.2 %)	596 (0.0 %)
IEF 2 100 µg R2	3759 (99.7 %)	572 (99 %)	4172 (0.2 %)	594 (0.0 %)

To determine the reproducibility of the 2nd dimension MS technical replicates results were analysed using the "compare results" function of PEAKS v6. Both 50 µg and 100 µg loads showed approximately 80 % peptide as well as protein overlap (see Figure 3.9). The peptide percentage was calculated by dividing the number of peptides identified in one experiment with the total number of peptides from both experiments, multiplied by one hundred. The two overlapping circles represent the common peptides divided by the total number of peptides from both runs, multiplied by one hundred. The percentages of the unique and common protein were calculated the same way as the peptide percentages.

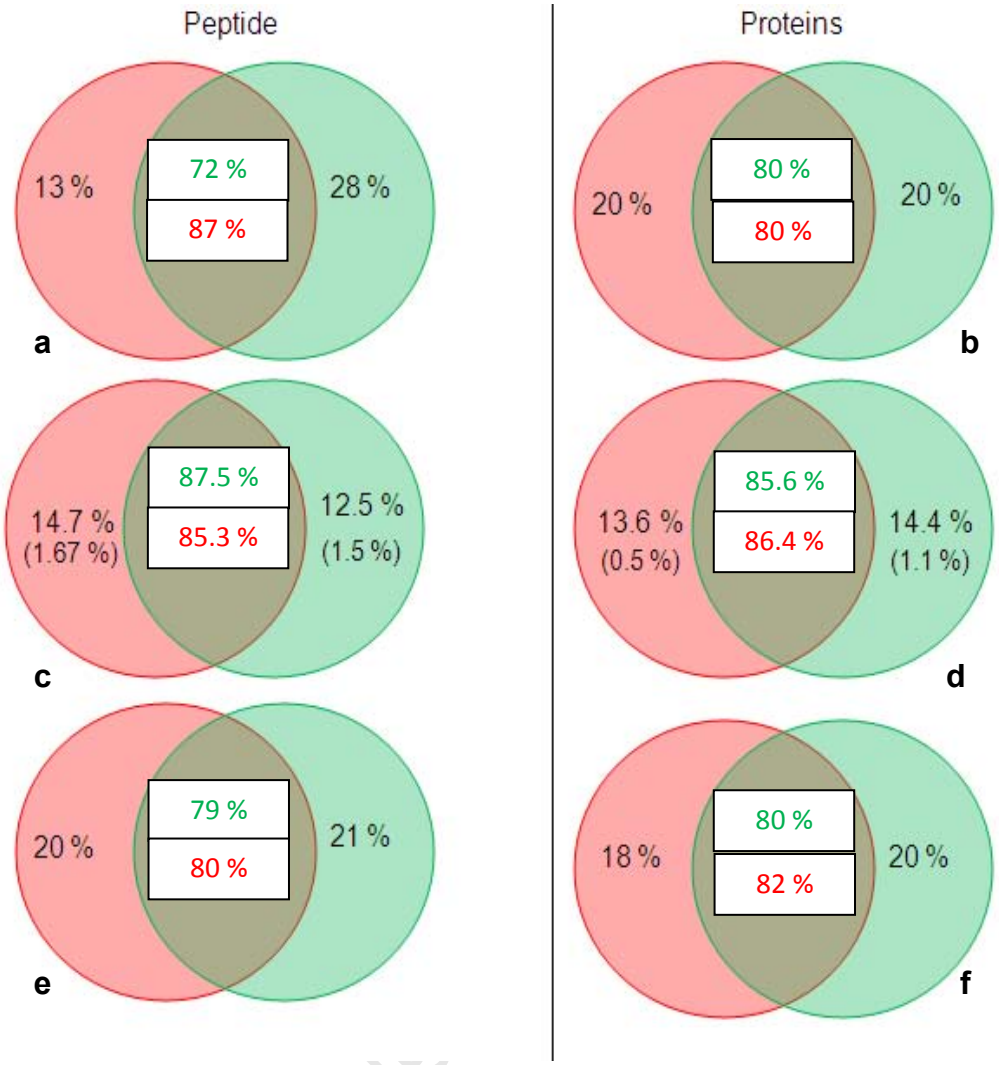


Figure 3.9: Venn diagrams showing percentages of unique peptides and proteins identified from Micro-Rotofor runs and MS duplicate runs.

Venn diagrams showing percentages of unique peptides and proteins identified in the first (red) and second (green) MS replicate runs from the 50 µg sample (**a** and **b**) as well as the combined average percentage and standard deviation in brackets of the first and second 100 µg load from the first (red) and second (green) MS run (**c** and **d**) and IEF1 100 µg R1 load (red) and IEF2 100 µg R1 (green) load (**e** and **f**). The percentage of overlapping proteins and peptides are shown in text boxes, with the green percentages representing overlaps from the green circle and the red percentage represents overlaps from the red circle.

The 100 µg runs on average resulted in a higher number of protein identities then the 50 µg runs and was therefore selected as a preferred amount for this technique.

3.3.2. Strong Cation Exchange-Reverse Phase Chromatography Followed by Tandem MS Analysis

In the first dimension peptides were fractionated according to charge whilst in the second separation was based on hydrophobicity (46). A 30 min gradient run resulted in more fractions being collected than the 15 min gradient run. The 30 min gradient run as it had more fractions was therefore selected to monitor the peptide elution patterns from the various fractions according to charge. Only peptides that were identified at 99 % confidence via Protein Pilot were used for subsequent analyses. The first thirteen fractions only had peptides with double charges; peptides from fractions fourteen to nineteen had both double and triple charges (Figure 3.10). The peptides eluted from 4 % to 46% of buffer B (20 mM NaH_2PO_4, 10 % ACN, 1 M NaCl pH 2.6) and as expected peptides with a lower charge state were eluted first and those with a higher charge state were eluted later at a higher salt concentration.

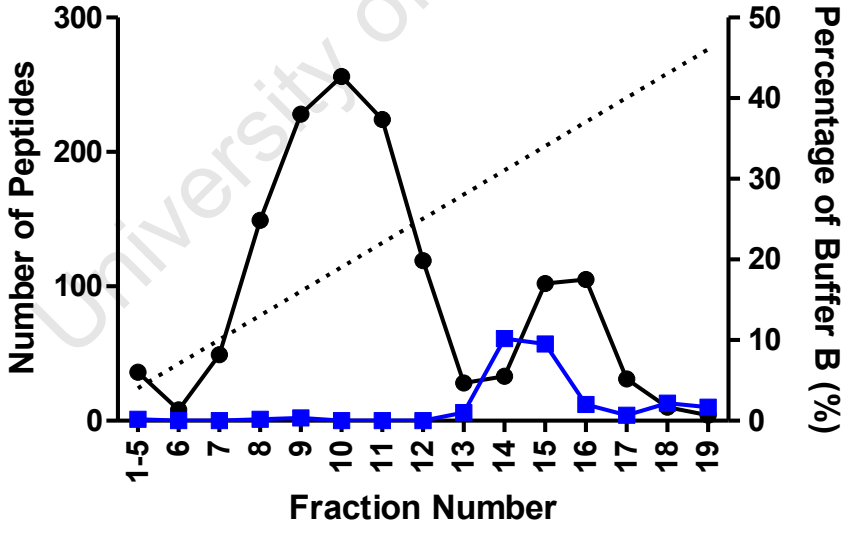


Figure 3.10: SCX-RP fractionated peptide charge state distribution.

The doubly charged peptides are represented by black circles. The triply charged peptides are represented by blue squares. The dotted line represents percentage of buffer B (20 mM NaH_2PO_4, 10 % ACN, 1 M NaCl pH 2.6).

Expasy (Expert Protein Analysis System(71)) MW/pI tool was used to determine the pI values of the identified peptides. The mean pI and standard deviation was then calculated for each fraction (Figure 3.11). It was observed that there was a general increase in the mean pI with an increase in fraction number and corresponding salt concentration increase.

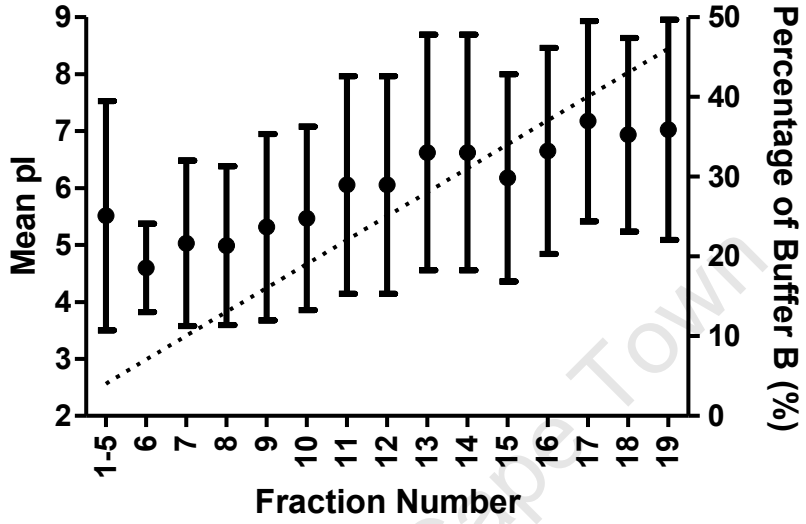


Figure 3.11: Mean pI of peptides in fraction 1 to 19 separated via SCX-RP chromatography

The evaluation of peptide elution patterns based on their mean pI (black dots). The standard deviation was represented as error bars. The dotted line represents percentage of buffer B (20 mM NaH_2PO_4, 10 % ACN, 1 M NaCl pH 2.6).

The sequence specific retention calculator (SSR calculator) (72) was used to determine the hydrophobicity values of peptides identified at 99 % confidence in the individual fractions. The mean hydrophobicity from fraction 1 to 12 was generally constant with fraction 6 and 9 being slightly lower. It then decreased from fraction 13 to 19 as the buffer B percentage increased (Figure 3.12).

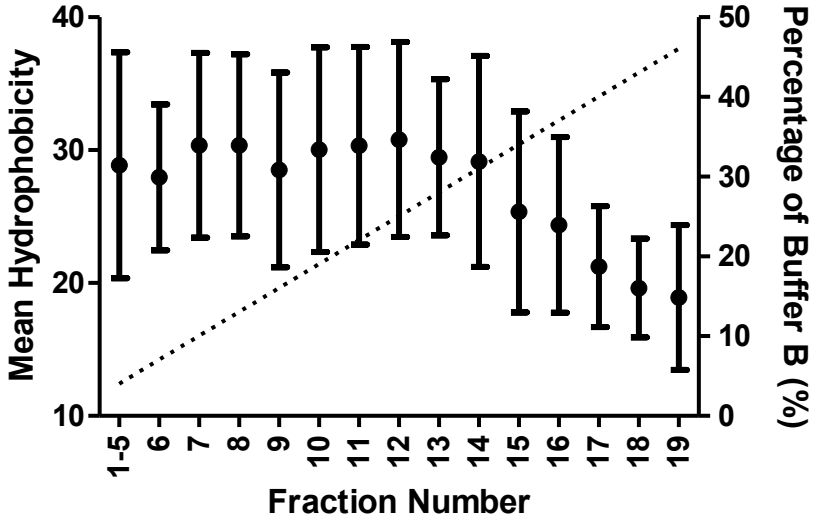


Figure 3.12: Mean hydrophobicity of SCX-RP separated peptides

An elution pattern of peptides from fraction 1 to 19 fractions based on their hydrophobicity. Peptide hydrophobicity mean and standard deviation values are plotted versus fraction number. The dotted line represents percentage of buffer B (20 mM NaH_2PO_4, 10 % ACN, 1 M NaCl pH 2.6).

Changes in mean molecular weight (MW) with increase in salt concentration were also analysed (Figure 3.13). Overall no observable pattern could be detected.

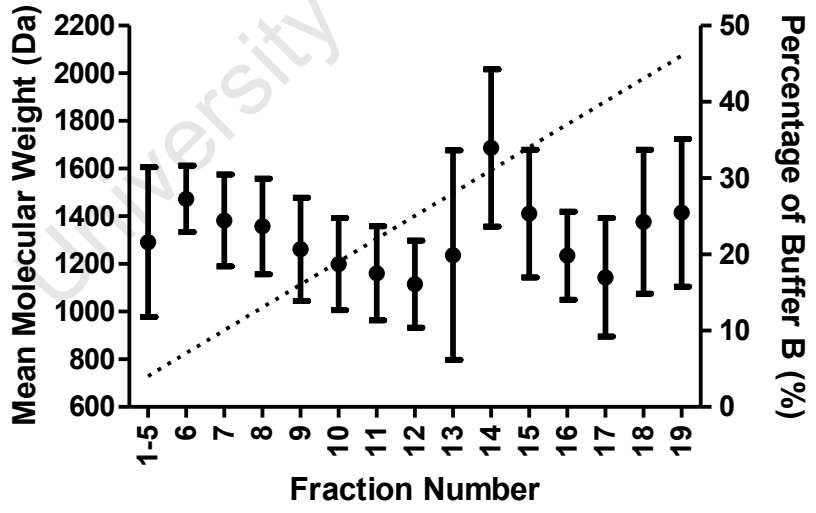


Figure 3.13: Mean molecular weight of SCX eluted peptides

Elution pattern of peptides in fraction 1 to 19 based on their molecular weight. The dotted line represents percentage of buffer B (20 mM NaH_2PO_4, 10 % ACN, 1 M NaCl pH 2.6).

During the optimisation of this technique only the fractions that had peaks from the chromatogram of the first dimension were collected and run on the second

dimension (Figure 3.14). A total of 14 fractions were therefore run on the second dimension for the 15 min gradient run and 17 fractions for the 30 min gradient. However analysing this high number of fractions is time consuming and thus costly. Hence, fractions that yielded few proteins (those circled in Figure 3.14) were pooled. No proteins were identified in fraction 17 to 27 for the 15 min gradient and for the 30 min gradient from fraction 19 to 35 no proteins were identified. These fractions were therefore excluded from the second dimensional analysis that followed. The number of proteins identified in Figure 3.14 (d) corresponded with the number of doubly charged peptides in Figure 3.10.

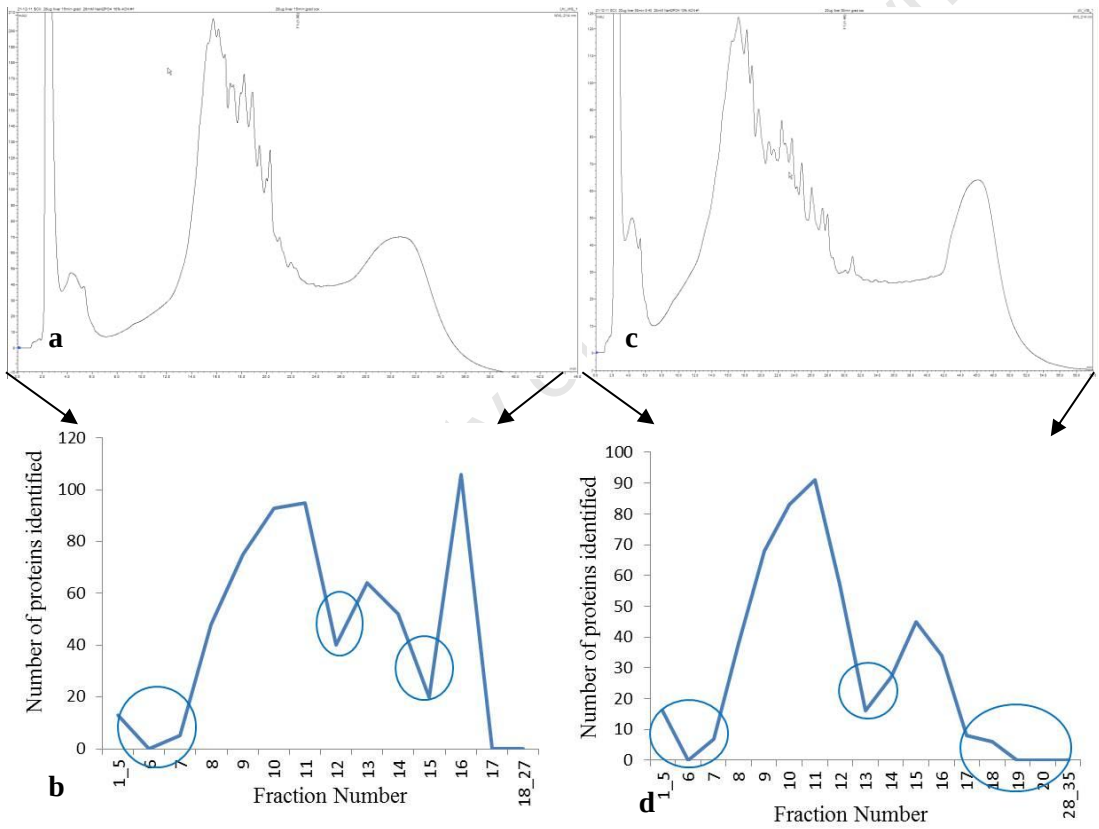


Figure 3.14: Chromatograms and graphs showing number of proteins identified per fraction.

The 15 min gradient is shown as **a** and **b** and 30 min gradient is shown as **c** and **d**. Circled areas were fractions to be pooled in subsequent runs due to few protein identities.

The above experiment was repeated but this time fractions within the circled areas in Figure 3.14 were pooled in order to reduce MS time. This means that for the 15 min gradient run, 9 instead of 14 fractions were collected, while for the 30 min gradient run 10 instead of 17 fractions were collected. To compensate for this pooling strategy, the gradient length used for the 2nd dimensional separation was increased from 40 min to 60 min.

The number of peptides and proteins identified, using Protein Pilot as well as PEAKS, from the first and second experiments are listed in table 3.3. Overall, the pooling of fractions in the 1st dimension resulted in fewer peptide and protein identifications in spite of the fact that 2nd dimensional gradient was extended by 20 minutes for both the 15 min and the 30 min gradient runs. The number of proteins identified from both runs was similar, with the 30 min gradient run having slightly higher number when only the pooled samples were considered. When the only the non-pooled runs were considered the 15 min gradient runs had slightly more proteins. Based on these observations it seems that running a longer gradient in the 1st dimension did not have a significant effect on the number of protein identified.

Table 3.3: Peptides and proteins Identified from SCX-RP fractionated samples

Sample	Protein Pilot at 1% FDR (corresponding confidence %)		PEAKS (FDR%)	
	Peptides	**Unique Proteins**	**Peptides**	**Unique Proteins**
Non-pooled 15 min gradient (14 Fcs)	2166 (99%)	460 (82.6 %)	2446 (0.1%)	444 (0.2%)
Pooled 15 min gradient (9 Fcs)	580 (99 %)	273 (99%)	700 (0.0 %)	279 (0.0 %)
Non-pooled 30 min gradient (17 Fcs)	2125 (99%)	467 (79.6 %)	2251 (0.1 %)	411 (0.2 %)
Pooled 30 min gradient (10 Fcs)	632 (99.6 %)	339 (90 %)	815 (0.1 %)	303 (0.0 %)

Fcs = Fractions

Venn diagrams showing percentages of unique and overlapping peptides/proteins identified from pooled and non-pooled SCX-RP experiments are shown in figure 3.15.

A much lower percentage of unique peptides and proteins were identified in the second experiments where fractions were pooled. Only 18 % of the peptides and 46 % of the proteins overlapped with the second experiment for the 15 min gradient run. Similarly, for the 30 min gradient only 19 % of the peptides and 54 % of the proteins from the first experiment overlapped with the second experiment. The peptide percentage was calculated by dividing the number of peptides identified in one experiment with the total number of peptides from both experiments, multiplied by one hundred. The two overlapping circles represent the common peptides divided by the total number of peptides from both runs, multiplied by one hundred.

The percentages of the unique and common protein were calculated the same way as the peptide percentages.

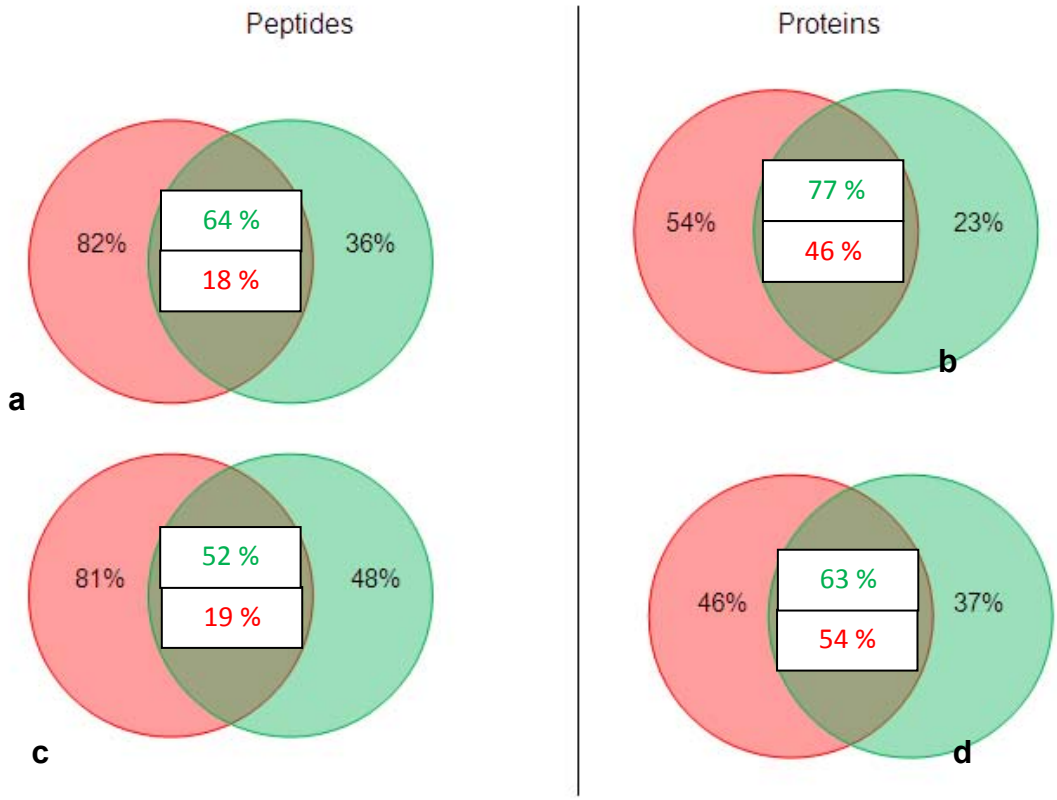


Figure 3.15: Unique peptides and proteins identified from the non-pooled and pooled SCX-RP experiments.

Percentage of unique and overlapping peptides/proteins from the first/non-pooled (red) and second/pooled (green) experiments. The 15 min gradient run results are shown in **a** and **b** while the 30 min gradient results are shown in **c** and **d**. The percentages of overlapping proteins and peptides are shown in text boxes; with the green percentages representing overlaps from the green circle and the red percentage represents overlaps from the red circle.

3.3.3. Reverse Phase – Reverse Phase Chromatography Followed by Tandem MS Analysis

In RP-RP chromatography peptides were separated based on their hydrophobicity initially at high pH (pH 9.6) and then at low pH (pH 2.6) (47). A 30 min gradient run

was used to evaluate various peptide fractionation patterns as more fractions were collected from it then the 15 min gradient run. In order to evaluate the separation efficiency, the SSR calculator (72) was once again used to calculate the hydrophobicity of 99 % peptides as identified by Protein Pilot, (Figure 3.16). The mean hydrophobicity generally increased with an increase in fraction numbers up to fraction number 22 and it decreased slightly in fraction 23 and 24. It then increased again in fraction 25 and 24 and decreased again in fraction number 27. Peptides eluted from 16 % to 90 % of buffer B (80 % ACN 20 mM NH_4OH pH 9.6).

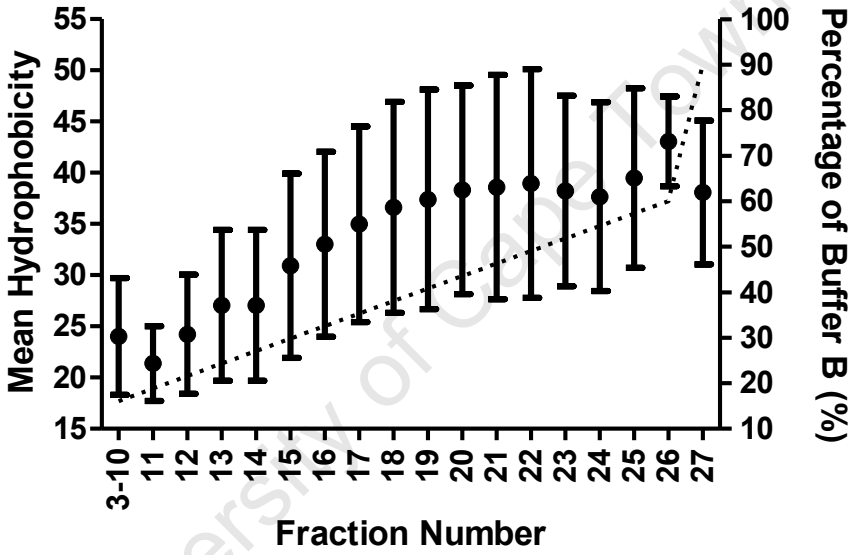


Figure 3.16: Mean hydrophobicity of RP$^{(high\ pH)}$ eluted peptides

Evaluation of peptide elution patterns based on their mean hydrophobicity. The standard deviation is represented as error bars. The dotted line represents percentage of buffer B (80 % ACN, 20 mM NH_4OH, pH 9.6).

Expasy (71) pI/MW tool was used to determine the pI and MW values of peptides that were identified at 99% confidence by Protein Pilot. The mean pI and MW was then calculated for each fraction. The mean pI (Figure 3.17) and MW (Figure 3.18) values of each of the fractions were plotted, and it was observed that the pI values increased with an increase in fraction number and buffer B percentage.

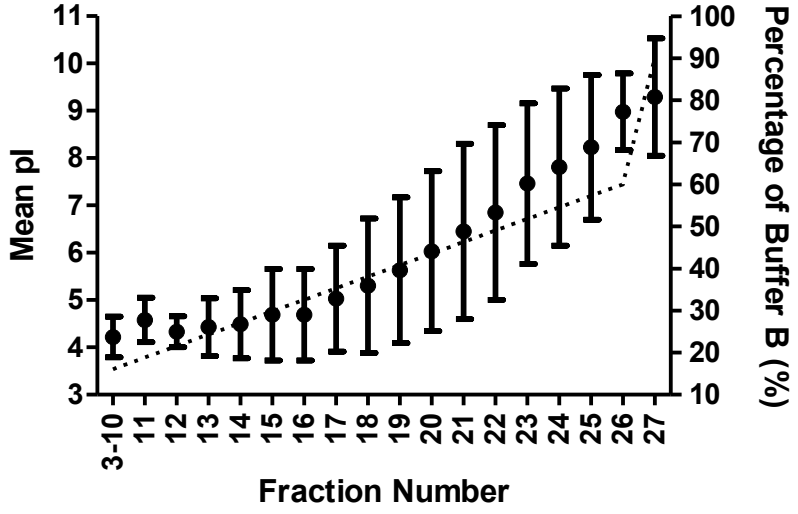


Figure 3.17: Mean pI of RP$^{(high\ pH)}$ eluted peptides

Evaluation of peptide elution patterns based on their mean pI. The standard deviation is represented as error bars. The dotted line represents percentage of buffer B (80 % ACN, 20 mM NH_4OH, pH 9.6).

Figure 3.18 shows that the MW increased from fraction 11 to 19, there was a slight decrease from fraction 20 to 24 then it increase again in fraction 25 and 26 then decreased in fraction 27. A very wide MW distribution was observed between fraction 17 and 22.

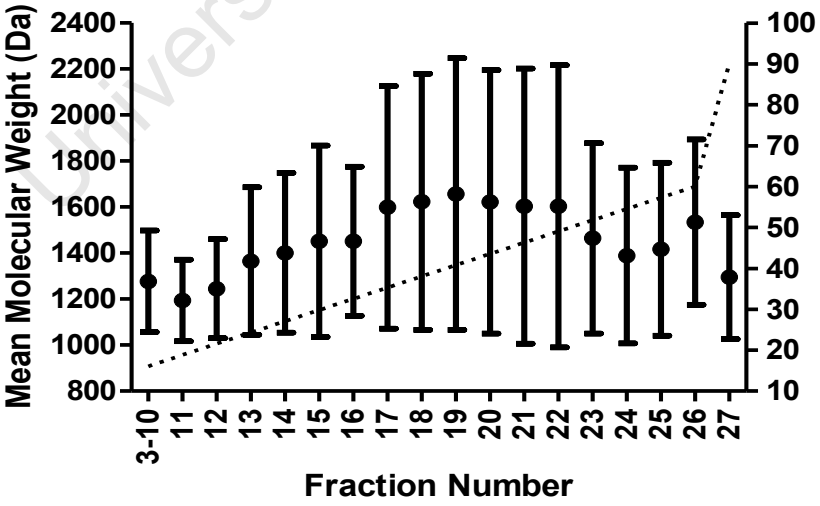


Figure 3.18: Mean molecular weight of RP$^{(high\ pH)}$ eluted peptides

Elution pattern of peptides identified in fractions 1 to 27 based on their molecular weight. The dotted line represents percentage of buffer B (80 % ACN, 20 mM NH_4OH, pH 9.6).

Similarly to the SCX separation, only fractions that had peaks were selected for analysis on the second dimension (Figure 3.19, a and b). 8 fractions from the 15 min gradient and 22 fractions from the 30 min gradient were analysed on the second dimension using 40 min gradient. Those fractions that had few proteins, indicated by the circled areas in Figure 3.19 (c and d) were pooled together to reduce the number of fractions run in the second dimension.

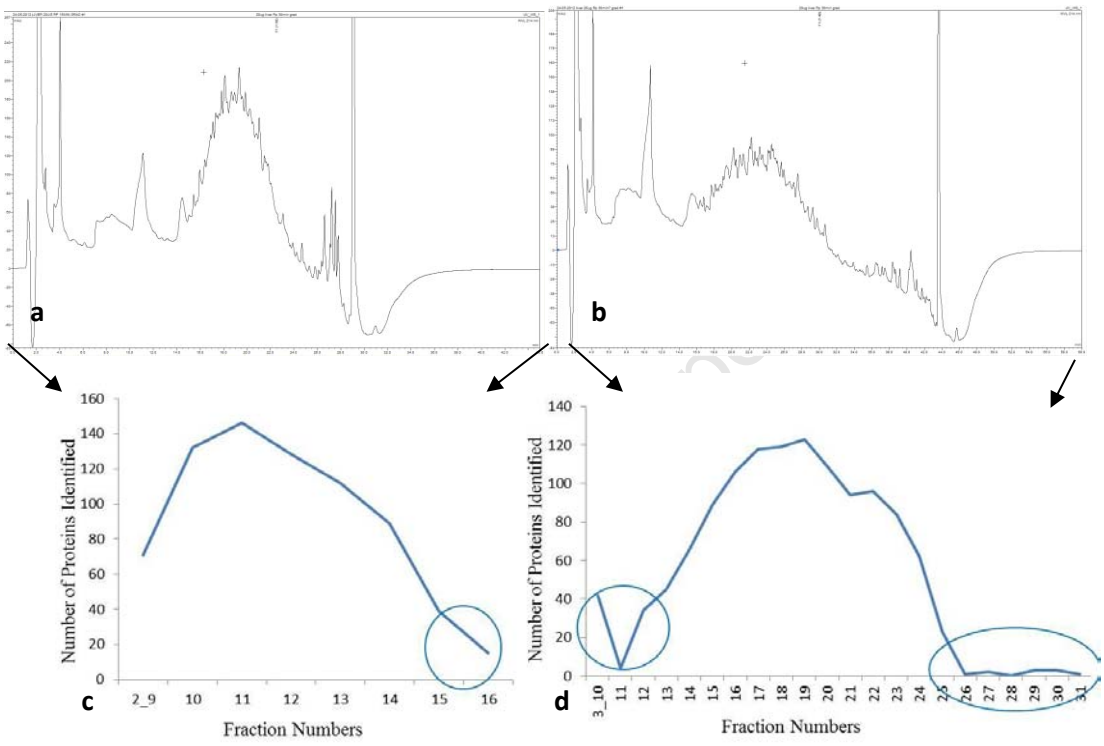


Figure 3.19: First dimensional chromatograms ($RP^{high\ pH}$) and number of proteins identified per fraction

Elution profile (a) and number of proteins identified (c) from a peptide sample separated by using a 15 min gradient. Elution profile (b) and number of proteins identified (d) from a sample separated by using a 30 min gradient.

The above experiment was repeated and the fractions within the circled areas in figure 3.19 were pooled in order to reduce MS time. This means that for the 15 min gradient run, 7 instead of 8 fractions were collected, while for the 30 min gradient run 13 instead of 22 fractions were collected. To compensate for this pooling strategy, the gradient length used for the 2nd dimensional separation was increased by 20 min from 40 min to a total of 60 min.

However despite the fact that only fractions that had a low number of proteins were pooled, the pooling of fractions in the 1st dimension resulted in fewer peptide / protein identifications even though the 2nd dimensional gradient was extended by 20 minutes. The number of peptides and proteins identified, using Protein Pilot as well as PEAKS, from the first and second experiments are listed in table 3.4. The 30 min gradient runs from both the pooled and non-pooled experiments resulted in higher number of protein identities then the 15 min gradient pooled and non-pooled runs.

Table 3.4: Peptides and proteins identified from RP-RP fractionated samples

Sample	Protein Pilot at 1% FDR (corresponding confidence %)		PEAKS (FDR %)	
	Peptides	**Unique Proteins**	**Peptides**	**Unique Proteins**
Non-Pooled 15 min gradient (Fcs 8)	3285 (99 %)	558 (94.2 %)	3608 (0.1 %)	534 (0.0 %)
Pooled 15 min gradient (Fcs 7)	2512 (98 %)	539 (83 %)	2125 (0.1 %)	451 (0.1 %)
Non-pooled 30 min gradient (Fcs 22)	5078 (99 %)	736 (98.6 %)	5087 (0.1 %)	702 (0.0 %)
Pooled 30 min gradient (Fcs 13)	3248 (98 %)	645 (96.1%)	3223 (0.1 %)	611 (0.1 %)

Fcs = Fractions

Venn diagrams showing percentages of unique and overlapping peptides/proteins identified from pooled and non-pooled RP-RP experiments are shown in Figure 3.20. As expected a much lower percentage of unique peptides and proteins were identified in the second experiments where fractions were pooled as the number of peptides identified were lower than those identified in from the non-pooled experiment. In the first (non-pooled) experiment where the peptides were initially

fractionated using a 15 min gradient it was observed that 35 % of the peptides and 63 % of the proteins were also identified in the second experiment. A much higher percentage of peptides (59 %) and proteins (74 %) from the second experiment overlapped with the first experiment.

In the first (non-pooled) experiment of the 30 min gradient run, only 40 % of the peptides and 69 % of the proteins overlapped with the second experiment. In the second experiment of the 30 min gradient 63 % of the peptides and 72 % of the proteins were present in the first experiment. This observation was expected as the number of peptides and proteins identified from the second (pooled) experiment was lower; the first (non-pooled) experiment with a higher number therefore had more unique peptides and proteins.

The peptide percentage was calculated by dividing the number of peptides identified in one experiment with the total number of peptides from both experiments, multiplied by one hundred. The two overlapping circles represent the common peptides divided by the total number of peptides from both runs, multiplied by one hundred. The percentages of the unique and common protein were calculated the same way as the peptide percentages. For this technique a 30 minute gradient would be a gradient of choice.

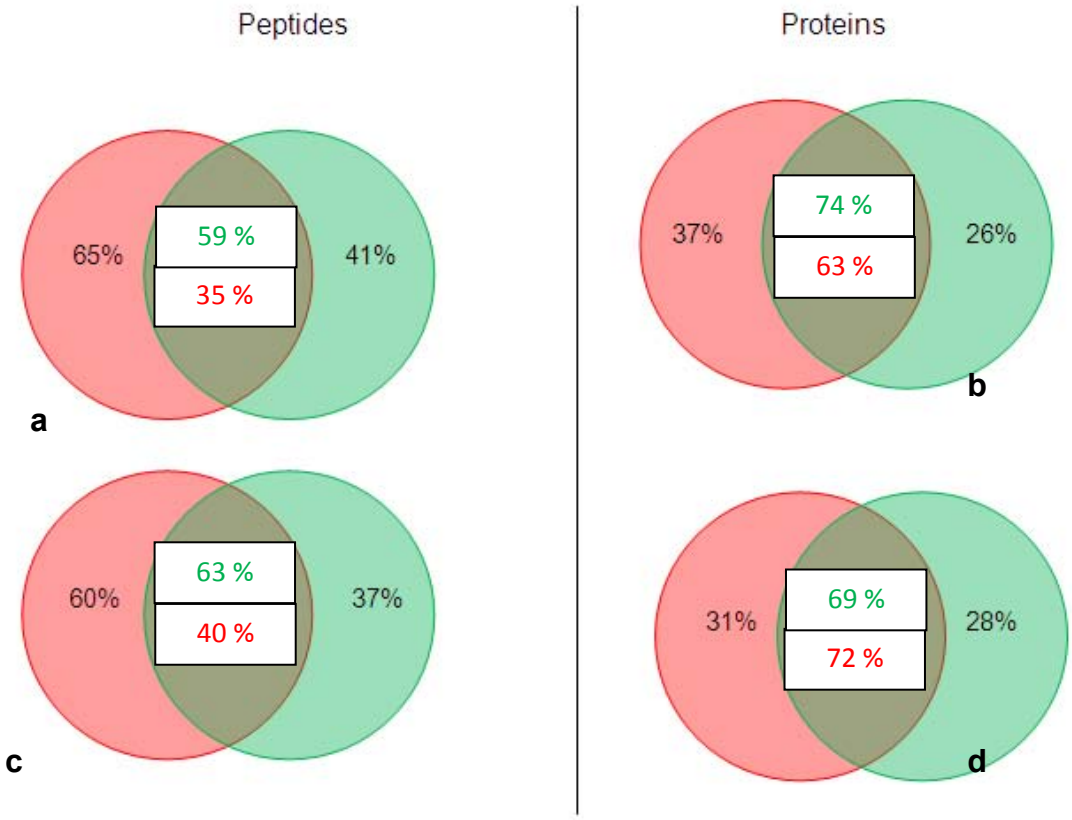


Figure 3.20: Unique peptides and proteins identified from the non-pooled and pooled RP-RP experiments.

Percentage of unique and overlapping peptides/proteins from the first/non-pooled (red) and second/pooled (green) experiments. The 15 min gradient run results are shown in **a** and **b** while the 30 min gradient results are shown in **c** and **d**. The percentages of overlapping proteins and peptides are shown in text boxes, with the green percentages representing overlaps from the green circle and the red percentage represents overlaps from the red circle.

3.4. Comparison of Gel and Solution Based Methods

Data from the pooled SCX-RP and RP-RP experiments was used for comparison with IEF-RP, analysed via LC-MS/MS for each of the above-mentioned methods (see Figure 3.21). The RP^{30min}-RP^{60min}method resulted in the highest number of identified proteins (Protein Pilot: 645, PEAKS: 611). Except for the IEF-RP experiments, a 100 µg of protein/peptides were fractionated by all the other techniques.

The IEF$^{100\mu g}$ -RP^{60min} run had second highest number of protein identities (Protein Pilot: 564, PEAKS: 583). It was followed by the Silver stain 2DE gel where 565 protein spots were visualised, then the IEF$^{50\mu g}$-RP^{60min} run (Protein Pilot: 558, PEAKS: 549). The RP^{15min}-RP^{60min} (Protein Pilot: 539, PEAKS: 451) followed, then the Oriole^{TM} stained gel where 377 protein spots were visualised. The SCX^{30min}-RP^{60min} run had the second lowest number of protein identities (Protein Pilot: 339, PEAKS: 303), while the SCX^{15min}-RP^{60min}resulted in the lowest number of proteins (Protein Pilot: 339, PEAKS: 303). The 2DE gel spots were not analysed on the MS to validate that all the spots were true proteins. The numbers of proteins identified from the different techniques were plotted in Figure 3.21a.

Methods were also compared in terms of consumable and running costs (see costing spread sheet Appendix: Table 5 and 6). In terms of the in-solution fractionation methods (IEF-RP, RP-RP and SCX-RP) the SCX-RP based analysis with cost per sample; R 382.56 was the most expensive. The cost per sample for the RP-RP and IEF-RP methods were approximately the same at R 346.27 and R 345.00, respectively. However, the IEF-RP method has a longer sample preparation and running time (see Figure 3.21b). For the 18 cm gels the Oriole^{TM} stain was found to cost approximately R 2300.00 per gel more than the Silver stained gels (Figure 3.21c).

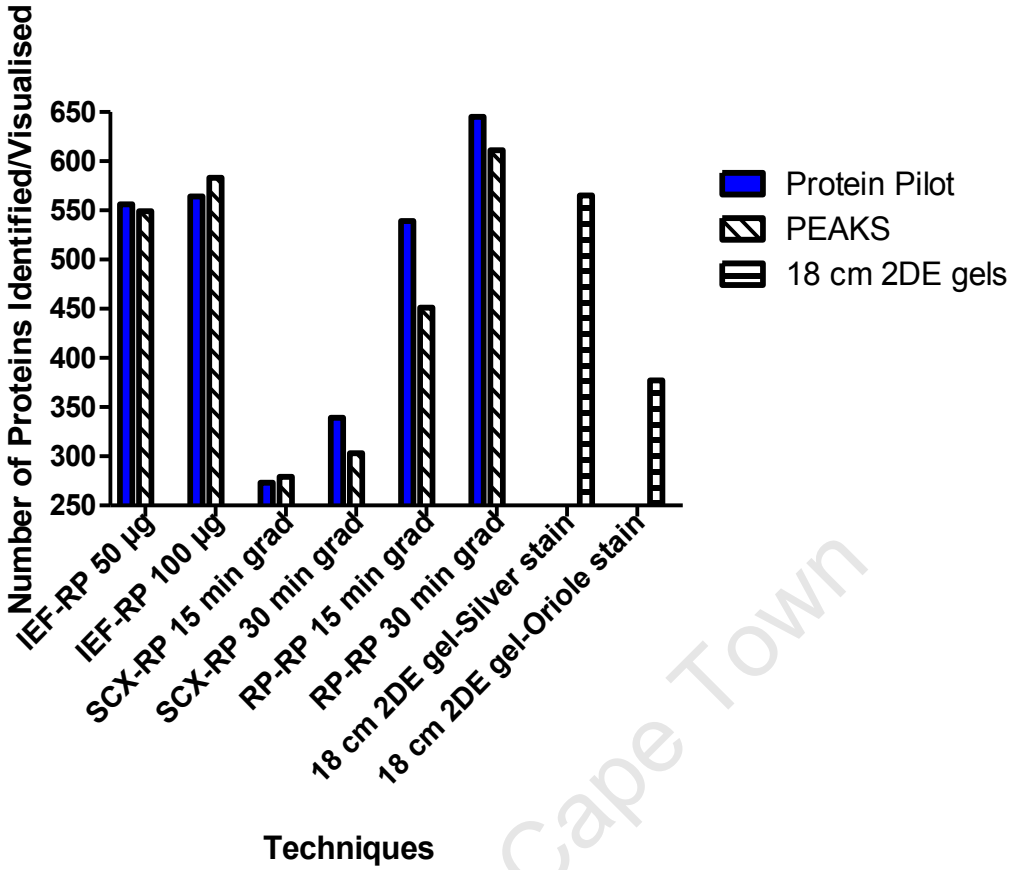


Figure 3.21a: Number of proteins (100 µg) identified by solution and gel based methods

The blue bars indicate the number of proteins identified on Protein Pilot at 1 % FDR and the black and white bars show number of proteins identified by the PEAKS software at 0.1 % spectral FDR.

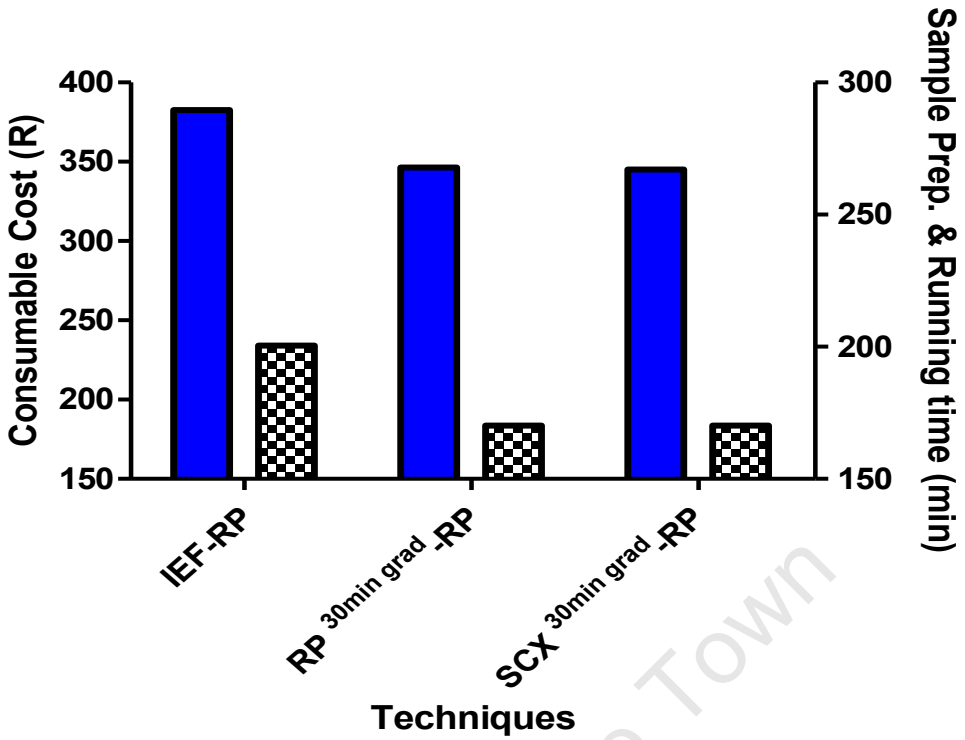


Figure 3.21b: Comparison of consumable costs, sample preparation and running time between solution-based methods.

The blue bars show the consumable cost and the bars with black and white patterns show the sample preparation and running time of the solution-based fractionation methods (IEF using Micro-Rotofor, RP-RP and SCX-RP).

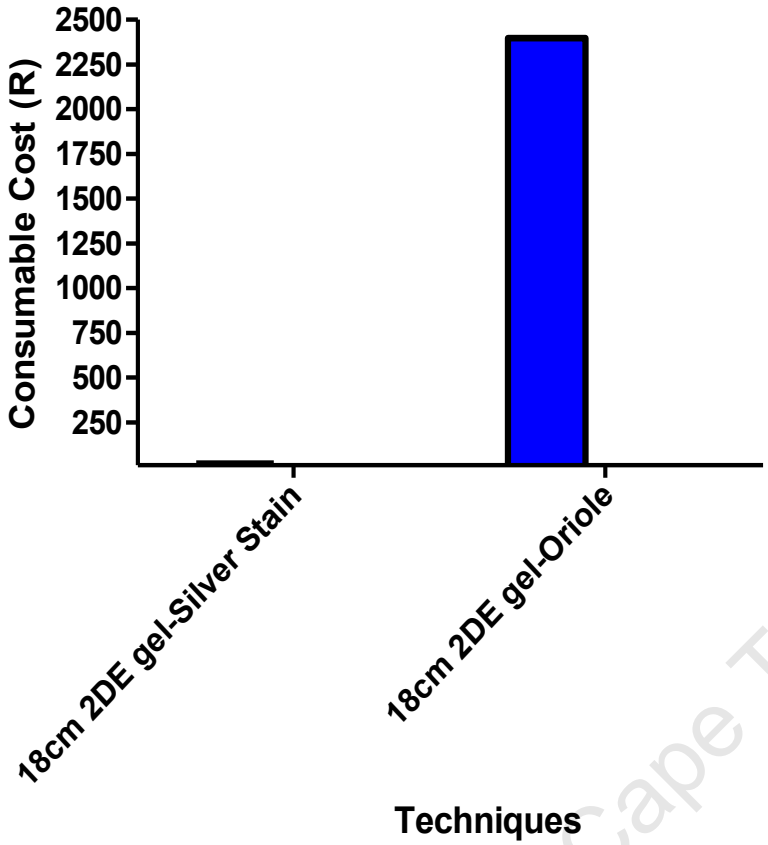


Figure 3.21c: Consumable cost for 18 cm 2DE gels.
The cost of staining the gels with Silver stain and Oriole^{TM} was compared along.

The two methods (IEF-RP and RP-RP) that resulted in highest number of identifications were probed further. It was found that approximately 70 % of the protein identities overlapped between the two methods (see Figure 3.22 and Appendix: Table 3).Proteins that are involved in the urea cycle, and are therefore of particular relevance to this work, were found in both RP-RP and IEF-RP runs (Figure 3.23).

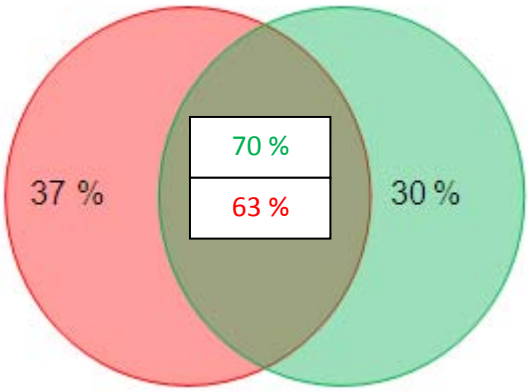


Figure 3.22: Unique proteins identified from the RP^{30min}-RP^{60min}gradient run and $IEF^{100\mu g}$ -RP^{60min} run.

Unique proteins from theRP^{30min}-RP^{60min}(red) and $IEF^{100\mu g}$ -RP^{60min}(green) runs. The percentages of overlapping proteins and peptides are shown in text boxes, with the green percentage representing overlaps from the green circle and the red percentage represents overlaps from the red circle.

Proteins that were identified from the pooled and non-pooled RP^{30min}-RP^{60min} experiments were combined into a single list. The generated list of non-redundant proteins was uploaded onto the publically available database, InnateDB, which was used to determine which proteins are over-represented in various Gene Ontology terms, such as biological pathways and processes (73). Table 3.5 shows the list of the most significant biological processes ($p<1x10^{-5}$); the table of all the over-represented biological processes can be found in the appendix (Table 7). The proportion percentages were calculated by dividing the number of uploaded genes associated with GO term by the number of genes associated with GO term in the database, multiplied by one hundred. Not surprisingly, many of the identified proteins were observed to be highly represented in biological processes associated with liver function, such as detoxification (oxidation-reduction process), the tricarboxylic acid cycle, glycolysis, and fatty acid metabolism (all $p<1x10^{-5}$).The urea cycle was also over-represented although not as significantly (p value:0.01723.

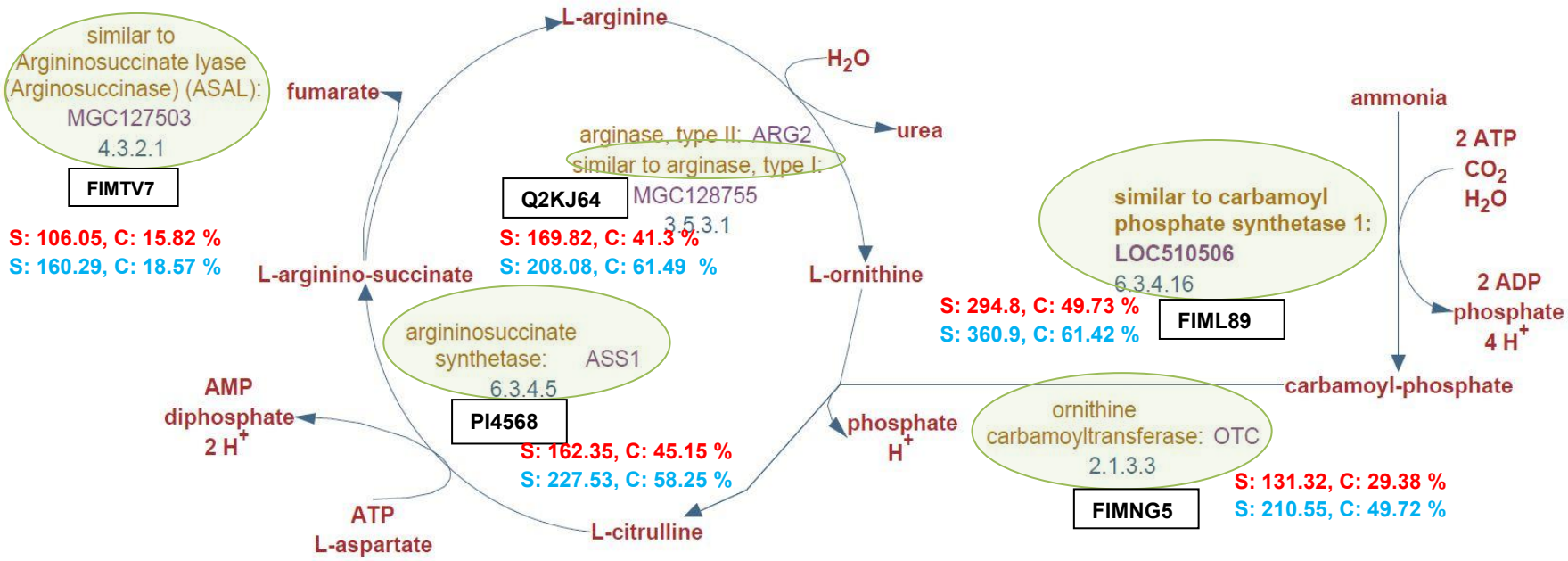


Figure 3.23: Urea cycle (source: BioCyc Database Collection (Bos Taurus) (74))

Urea cycle proteins identified using RP-RP and IEF-RP are circled and highlighted in green with uniprot accession numbers placed in boxes bellow the protein name. The protein score (S) and sequence coverage (C) are shown in red (RP-RP) and blue (IEF-RP).

Table 3.5: Gene ontology data list of proteins from the pooled and non-pooled RP-RP experiments

GO Term ID	Source Database	Organism	GO Term Name	Number of Uploaded Genes Associated with GO Term	Number of Genes Associated with GO Term in Database	Proportion	GO Term ORA P-Value (Corrected)
GO:0055114	GO	*Bostaurus*	oxidation-reduction process [biological_process]	161	583	28%	<1.0E-5
GO:0008152	GO	*Bostaurus*	metabolic process [biological_process]	156	790	20%	<1.0E-5
GO:0006412	GO	*Bostaurus*	translation [biological_process]	66	322	20%	<1.0E-5
GO:0006099	GO	*Bostaurus*	tricarboxylic acid cycle [biological_process]	14	21	67%	<1.0E-5
GO:0006096	GO	*Bostaurus*	glycolysis [biological_process]	15	38	39%	<1.0E-5
GO:0022900	GO	*Bostaurus*	electron transport chain [biological_process]	20	77	26%	<1.0E-5
GO:0006631	GO	*Bostaurus*	fatty acid metabolic process [biological_process]	14	36	39%	<1.0E-5
GO:0006749	GO	*Bostaurus*	glutathione metabolic process [biological_process]	10	16	63%	<1.0E-5

GO:0015986	GO	*Bostaurus*	ATP synthesis coupled proton transport [biological_process]	11	22	50%	<1.0E-5
GO:0051603	GO	*Bostaurus*	proteolysis involved in cellular protein catabolic process [biological_process]	11	26	42%	<1.0E-5
GO:0006635	GO	*Bostaurus*	fatty acid beta-oxidation [biological_process]	9	16	56%	<1.0E-5
GO:0006695	GO	*Bostaurus*	cholesterol biosynthetic process [biological_process]	9	17	53%	<1.0E-5
GO:0015992	GO	*Bostaurus*	proton transport [biological_process]	14	51	27%	<1.0E-5
GO:0045454	GO	*Bostaurus*	cell redox homeostasis [biological_process]	15	64	23%	<1.0E-5
GO:0005975	GO	*Bostaurus*	carbohydrate metabolic process [biological_process]	25	168	15%	<1.0E-5
GO:0006457	GO	*Bostaurus*	protein folding [biological_process]	21	126	17%	<1.0E-5
GO:0006414	GO	*Bostaurus*	translational elongation [biological_process]	10	28	36%	<1.0E-5

GO:0006662	GO	*Bostaurus*	glycerol ether metabolic process [biological_process]	7	12	58%	<1.0E-5

CHAPTER 4: DISCUSSION

4.1. Sample Preparation

Biomarker discovery studies are often limited by the initial step of the experiment which is protein extraction (3, 75). Protein extraction in the presence of urea, DTT, ampholytes and CHAPS was compared to extraction in SDS. It is important for the selected reagent to be able to maintain the proteins in solution, as the hydrophobic regions of proteins resist exposure to the aqueous solvent by clumping together this then leads to aggregation, sample loss and enzymatic access to the cleavage sites is also hindered (23).

SDS has an ionic head group that disrupts ionic protein-protein interactions by associating with positively charged side chains; it also maintains electrostatic repulsion thus preventing the proteins from aggregating. Its long hydrocarbon chain tail breaks intra-protein bonds by interacting with polypeptide chains of the proteins (23). The SDS not only resulted in the extraction of higher amounts of protein as indicated by single arrows but also more proteins as indicated by double arrows in Figure 3.1. It was therefore selected as the solubilising reagent and the FASP method was used to remove this detergent, since it interferes with downstream digestion as well as MS analysis (25).

Botelho and colleagues (28) reported that SDS above 0.01 % will interfere with MS analysis. In this study, SDS concentration was reduced to approximately 0.0001%. The SDS containing buffer was exchanged with 8 M urea. However at such a high urea concentration trypsin becomes subjected to the denaturing effects of urea (75). The urea concentration was therefore decreased to 1 M, but at such a low concentration it is unable to efficiently solubilise proteins by unfolding them via their electrostatic interactions and hydrogen bonds (23), some proteins therefore come out of solution.

To avoid this, MS compatible detergents (PPS/RapiGest) were added to the samples. Protein digestion in the absence and presence of these two detergents was compared. Since analysis of complex protein mixtures can also be limited by incomplete digestion (76), two digestion periods (4 hours versus 16 hours) were also compared. For all the digestion conditions, a band around 20 kDa was observed (Figure 3.2). This was an indication of the presence of proteolytically resistant proteins. While others may argue that shorter digestion periods are better (32), longer digestion periods were required to digest such proteins.

After 16 hours this band was much fainter so much so that it was difficult to judge which digestion condition was more efficient. To determine this, samples had to be analysed via MS and peptide/protein identities compared. Figure 3.3 (a-c) showed the total ion chromatographs of the three samples, the RapiGest chromatogram (c) showed peptides eluting only at very high ACN concentrations. This was an indication of incomplete degradation of RapiGest. This surfactant, if not completely removed, acts as a strong ion-pairing agent thus effectively shifting the retention time of the peptides (31) resulting in poor peptide separation and thus fewer identified peptides and ultimately proteins. To prevent this problem from occurring the RapiGest degradation step can be optimised by increasing the acid concentration and / or degradation period. However due to time constrains this was not investigated.

Protein digestion in the presence of PPS was selected as it resulted in the highest number of protein identities (Figure 3.4). This result suggests that PPS does indeed improve trypsin digestion efficiency by solubilising and unfolding proteins thus exposing more trypsin cleavage sites (31).

4.2. Large Scale Proteome Profiling

4.2.1. Gel-Based Protein Separation

4.2.1.1. Two-Dimensional Gel Electrophoresis

The 2DE gel is one of the most used fractionation techniques. A guide on how to conduct this method was available, with parameters like the focusing temperature, the length of the equilibration steps and contents of the rehydration and equilibration buffer (67). I ensured that the temperature (20 ^{0}C) was kept constant during optimisation by setting all the runs to 20 ^{0}C on the IPGphor, as temperature affects the entry of proteins into the IPG gel and the protein spot position (66). The suggested equilibration period of 2 X 15 min allowed for the optimal transfer of proteins from the first to the second dimension (66).

Even with the implementation of this guide, several problems were encountered. These problems were listed in table 3.1, possible causes and solutions for these problems were also listed. For all the gels a wide pH range of 3 to 10 was used in order to show the overview of the state of the proteome (66). Trouble shooting the causes of vertical and horizontal streaks was very time consuming, as there are numerous conditions that influence this as described by (66, 69). Only the solutions that improved the appearance of the gel were listed in table 3.1.

Poor protein solubility during the first dimension (IEF) was listed as the major reason for streaky second dimensional patterns. This problem was addressed by preparing the rehydration buffer (7 M Urea, 8.1 mM CHAPS, 18 mM DTT, 0.005 ml (0.5 % v/v) ampholytes) the same way as the lysis buffer (8 M urea, 2 M thio-urea, 32.5 mM CHAPS, 0.01 ml (1 % v/v) ampholytes, 65 mM DTT). This meant that the chaotropes concentrations were increased. Thiourea was added as it is known to highly increase the solubilisation power of the buffer, since IPG strips are known to be prone to adsorptive losses of iso-electrically neutral and hydrophobic proteins. These changes led to the increased disruption of hydrogen bonds leading to an increase in protein denaturation (77).

Silver stain was used throughout the optimisation process because of its high sensitivity (38) and relatively low cost (Figure 3.21c). However drawbacks of using this stain were that it was very laborious and various reagents had to be prepared fresh every time using high quality water (38). Staining time was not consistent as the staining process was terminated once all the protein spots have appeared and the termination time varies from gel to gel, it therefore does not result in linear measurements of the protein abundance (78) making it difficult measure the expression levels of the various proteins.

The Colloidal Coomassie blue stain on the other hand does not have any of the above drawbacks. It was cheap, easy to prepare and use. It has also been reported by Lamanda and colleagues (79) that it results in better results in terms of homogeneity and linearity and it allows for easier detection of proteins on the MS compared to the Silver stain, however it was not used during the optimisation process because of its relatively low sensitivity (80). In the next phase of this project protein expression levels will be determined. We therefore had to decide which sensitive stain that has good linearity should be used.

Four 18 cm gels loaded with the same amount of protein (100 µg) were run parallel to each other. Two of them were Silver stained (Figure 3.5) and the other two were stained with Oriole™ (Figure 3.6). Oriole™ was selected in the hope that it would replace the Silver stain as it is cheaper than the SYPRO® Ruby (R 2000.00 more expensive then Oriole™) (a commonly used MS compatible fluorescent stain which is able to detect up to 1 ng of protein and has been reported to have a good linear dynamic range (81). Staining with Oriole™ only took 90 min and no fixing or destaining was required. Most importantly according to Thulasiraman and Waker (82) the staining sensitivity, protein-protein consistency and MS compatibility are all the same as SYPRO® Ruby.

When the protein spots from the Oriole™ gels were manually matched, using PDQuest software to produce a master gel, only 377 proteins were overlaid versus

595 proteins when the Silver stained gel spots were matched (Figure 3.5 and 3.6). Due to the fact that SYPRO® Ruby was very expensive we were unable to stain the 18 cm gels with it.

In literature there seemed to be mixed feeling about which stain is more sensitive (Silver stain versus SYPRO® Ruby). Some found that SYPRO® Ruby was more sensitive (38, 83), others argue that this is only the case when semi-optimised Silver staining protocols are used (79-81).Either way 18 cm gels stained with Silver stain and SYPRO® Ruby still have to be run parallel to each other to determine the detection levels of the SYPRO® Ruby compared to Silver stain for proteins extracted from cattle liver.

4.3. Solution-Based Peptide Separation

In proteomics powerful techniques are required to identify individual proteins that can span four to five orders of magnitude (84). Although the 2DE gel method is mature, powerful and has unique advantages, there are still questions about its ability to characterize all the elements of the proteome (85). Solution based methods were developed to address the limitations of the 2DE gel (84).

4.3.1. Solution-Phase Iso-electric Focusing coupled to nanoLC-MS/MS

Solution phase IEF coupled to RP-nanoESI-MS/MS, involves the fractionation of peptides based on their pI (70). Peptides are then further separated on a RP column based on their hydrophobicity, prior MS/MS-based analysis. The optimal amount of protein to be loaded for Micro-Rotofor fractionation was first determined by comparing the peptide distribution, as well as number of protein identifications, resulting from 50 µg, 100µg, 200µg peptide loads (Figure 3.7).

Peptides from the 100µg sample were the most widely distributed, and hence best separated. The fractionation pattern was very closely followed by 50µg sample. The 200 µg sample had the worst distribution with more than half of the peptides found between fractions 2 and 3. As expected peptide distribution corresponded with the number of proteins identified. The sample with the best distribution, 100 µg, resulted in the highest number of protein identities (448), followed by the 50 µg amount with 430 proteins and the 200 µg sample with much lower (322) proteins identified. This was because more peptides in fraction 2 and 3 were introduced into the MS. These fractions were therefore still very complex when introduced for MS/MS analysis. Hence, due to co-elution, the majority of peptides could not be fragmented and later identified (48).

The sample load experiment was repeated using the 50 µg and 100 µg amounts. The pI distribution of high confidence peptides (99 % as reported by Protein Pilot) were then evaluated (Figure 3.8). There was a pronounced increase in the mean pI from fraction 4 to 7, from fraction 8 to 10 it began to stabilise. This shows that there was indeed separation of peptides based on pI (70). This means that few very basic proteins with a pI value above 9 were identified.

The results listed in table 3.2 showed that overall the 100 µg and 50 µg data was very similar but on average the 100 µg runs resulted in slightly more peptide and protein identities. This was confirmed by searching the data with PEAKS which similarly to Protein Pilot is used for the automated identities of peptides from MS/MS spectra. The IEF-RP fractionation workflow was found to be highly reproducible with both 1^{st} and 2^{nd} dimensional repeats resulting in ≥80% reproducibility for proteins and ≥79% for peptides (Figure 3.9).

4.3.2. Strong Cation Exchange-Reverse Phase Chromatography followed by Tandem MS Analysis

Two-dimensional liquid chromatography is a good alternative for simplifying complex peptide mixtures before they are introduced for tandem MS analysis (46).

The tryptic peptides were separated by using a SCX column in the first dimension and a low pH RP column in the second dimension. In the SCX mode peptides were eluted with a salt gradient. This non-volatile salt is not compatible for direct MS connection. A desalting step for both offline and online set-ups is therefore always required, this was accomplished by using a RP trap column (86).

To evaluate the SCX separation mechanism the elution pattern of high confidence peptides (99 %) was profiled. The peptide elution patterns were evaluated based on their charge (Figure 3.10), pI (Figure 3.11), hydrophobicity (Figure 3.12) and MW (Figure 3.13). Figure 3.10 showed that most of the peptides had double charges (2+). This was because tryptic peptides are mostly doubly charged, as trypsin cleaves arginine/lysine plus primary amine at the N-terminus. The (triple charges) 3+ were due to the presence of histidine in the sequence or missed cleavages (87).

The Polysulfoethyl-Asp column used in the first dimension is made out of a silica-based material that is coated with anionic polymer: poly(2 sulfoethyl aspartate). The pH was set to 2.6, at this pH negative charges of the carboxyl groups and the C-terminal of amino acids were neutralised. This then caused the N-terminus, arginine, lysine and histidine to become completely protonated, thus contributing to the net positive charge of the peptides. The mean pI of the peptides gradually increased with the increase in the salt concentration (buffer B), this indicated that the peptides' pI contributed to their fractionation as peptides with a higher pI have more charges they therefore bound more tightly to the column this then led to them being eluted at a higher salt gradient (Figure 3.11).

Since the charge of the solute in the SCX mode is responsible for the retention of these tryptic peptides, the elution window was narrow as shown in Figure 3.14. Most of the peptides eluted early in the gradient therefore parts of the separation were without any peaks (87).The pattern from the mean hydrophobicity plot (Figure

3.12) showed that hydrophobicity played no role in peptide separation, these findings were consistent with what (87) reported.

According to (84), peptides with a high MW are more likely to be identified by SCX-MS, however the peptide MW elution profile in Figure 3.13 was inconclusive. I was therefore unable to demonstrate that size also plays a role in peptide elution.

The overall number of protein identifications decreased when the number of SCX fractions was reduced (see Table 3.3 and Figure 3.15). This was because the peptide mixtures introduce for MS/MS analysis were more complex, due to fraction pooling, and more peptides were co-eluting and were thus missed (48). The elution of peptides within a narrow window from the SCX column probably exaggerated this problem.

4.3.3. Reverse Phase – Reverse Phase Chromatography Followed by Tandem MS analysis

In RP-RP chromatography peptides are fractionated by using a high pH mobile phase in the first dimension and low pH mobile phase in the second dimension. The pH change is therefore responsible for the changes in peptide selectivity between the two dimensions (48). The mobile phase has two major components that are, organic solvent (ACN) and an ion pairing reagent (formic acid). An ion-pairing reagent increases the retention of polar, basic and acidic compounds based on ionic interactions (88). The stationary phases of both columns are made out of silica-based particles that are coated with C18 alkyl chains.

When the elution pattern of high confidence peptides (99 %) was evaluated, it was observed that the peptides were separated based on hydrophobicity (Figure 3.16) as well as charge (Figure 3.17) but not according to size (Figure 3.18). Peptides separated based on their hydrophobicity because, when the peptide sample was introduced into the C18 column, their hydrophobic side chains bound to the hydrophobic residues on the surface of the beads. In the wash step contaminates

like salts that did not bind to the surfaces were washed off (24). Peptides were then separated based on the strength of their interaction. The peptides that had low hydrophobicity were eluted first and those with high hydrophobicity were eluted later as the ACN concentration increased (38).

In high pH RP-low pH RP LC, peptides were also separated according to changes in the charge profile (Figure 3.17) of the acidic and basic peptides under different pHs (48). In the first dimension at high pH, the acidic amino acids would be negatively charged and the basic amino acids would be neutral. In the second dimension which is run at low pH, the acidic peptides were neutral and the basic amino acids were positively charged (48).

As shown in the SCX-RP experiments, table 3.4 also showed that the number of peptides and proteins identities decreased when the fractions were pooled in the second experiment. The 30 min gradient runs for all the experiments resulted in higher protein identities then the 15 min gradient runs (Figure 3.19). These indicate that decreasing the complexity of the peptides being introduced into the MS leads to identification of a higher number of proteins (48). It was clear, when results from the pooled samples were compared to non-pooled samples, that analysing a higher number of fractions in the second dimension was much better than increasing the gradient length in the second dimension by 20 min (see Figure 3.20).

4.4. Comparison of Gel and Solution Based Methods

In terms of number of peptide and protein identifications, the RP^{30min}-RP^{60min} method performed the best. It was closely followed by the $IEF^{100\mu g}$ -RP^{60min}method (Figure 3.21a). However, it has to be considered that more fractions, 13, were analysed in the case of RP^{30min}-RP^{60min} as compared to $IEF^{100\mu g}$ -RP^{60min} where only 10 were loaded for LC-MS/MS analysis. In terms of cost the two methods were also very close with the cost per sample being approximately R230.00 (see Figure 3.21b). Figure 3.22 shows that ≥ 67 % of the proteins were identified by both methods.

Most importantly to this work, all proteins involved in the urea cycle were identified by both RP^{30min}-$RP^{60min}$and $IEF^{100\mu g}$-RP^{60min} profiling (see Figure 3.23).

One of the major issues with using the Micro-Rotofor set-up is the difficulty in collecting fractions as well as possible sample loss when loading the sample into the fractionation chamber while trying not to introduce bubbles into the chamber. Bubbles interfere with the flow of the current which could lead to the run stopping before the end of the gradient is reached (89). Ultimately, the RP^{30min}-RP^{60min} method was selected for profiling of Nguni liver tissue purely because this workflow is easier to set-up as well as run.

However I did bear in mind that the differences in the Nguni cattles' proteome compared to the Hereford could possibly lie in pathways that are upstream or somehow connected to the urea cycles. I therefore had to ensure that the selected RP-RP method is not biased towards proteins involved in a particular biological pathway, whereby only proteins that are involved in a particular pathway are extracted. There were 124 biological processes that were over-represented and the urea pathway was amongst them. Since the list of these processes was long only the processes that had a significance of ($p<1x10^{-5}$) were listed in Table 3.5. Those that are over-represented in any of these ontologies than would have been expected by chance alone have a significance $p<0.05$. The statistical method used to examine the distribution of proteins according to Gene Ontology Terms was based on the Innate DB's default hypergeometric analysis algorithm In order to correct the significance level 'p' for multiple testing Benjamini Hochberg was used.

4.5. Future Work

In order to investigate the phenomenon of enhanced nitrogen metabolism in Nguni cattle through proteomics means, the ARC Animal Improvement Institution will supply biopsied liver tissue samples from 5 Nguni cattle (African breed) and 5 Hereford cattle (European breed). The 5 animals in each class will be selected

based on the outcome of experiments designed to investigate the performance of these animal breeds under simulated adverse conditions.

Treatment conditions will be comprised of: Treatment A - experimental ration fed at equivalent of 0.0105g protein equivalent per kg metabolic live mass – no water restriction; Treatment B - experimental ration fed at equivalent of 0.0045 g protein equivalent per kg metabolic live mass – no water restriction; Treatment C - experimental ration fed at equivalent of 0.0105 g protein equivalent per kg metabolic live mass – water intake restricted to 60% of voluntary water intake; Treatment D - experimental ration fed at equivalent of 0.0045 g protein equivalent per kg metabolic live mass – water intake restricted to 60 % of voluntary water intake. The duration of each treatment will be two weeks, with an equal or longer wash out period to reduce potential carry-over effects that may arise from the other treatments. For each treatment condition comprising 5 Nguni and 5 Hereford cattle, experiments will be performed in triplicate (i.e. 30 cattle per treatment).

At the end of the experiments biopsies will be taken from the top 5 best performing Nguni cattle and 5 poor performing Hereford cattle, in order to increase the likelihood of identifying relevant biological differences between the two breeds. The number of animals per group selected by the ARC for downstream proteomics analysis is based on this sample number having a 95% power to detect a relative difference of > 3 mM blood urea nitrogen (BUN) between the comparison groups, assuming within animals that standard deviation is 0.87 mmol/BUN based on previous estimates calculated by the ARC.

The ARC will then provide us (CSIR) with the biopsies from the selected cattle for proteomic analysis. Prior to pooling samples from individual animals within the same cattle breed, interindividual liver proteome differences will need to be investigated. This assessment may be achieved by using 2DE gels, for example by comparing the 2DE gel distribution of liver proteomes between 5 individual Nguni cattle, and performing similar interindividual comparisons between liver samples sourced from Hereford cattle.

In the event that correlation between individual proteome samples in each independent breed is high (for example a minimum correlation coefficient of>0.70 but preferably >0.90) then pooling these samples into representative groups would be feasible. This would significantly reduce the time and cost required to perform downstream quantitative analyses of these samples. The pooled samples per breed per tissue will then be analysed in triplicate using RP-RP LC-MS/MS (81).

For quantification, using iTRAQ reagents (described in chapter 1 (1.11)) is suggested because there will be more than two samples to be analysed, and with iTRAQ up to 8 samples can be labelled. Samples will be combined at the peptide level before MS analysis thus reducing technical variances as well as analysis time and ultimately cost. Dual labelling of proteins before 2DE gels with fluorescent dyes that emit at different wavelengths is another popular approach. However it can be misleading as more than one protein can be present in one spot and for MS analysis samples have to be processed one after the other (label-free quantification) this could therefore lead to introduction of errors (90, 91). The solution based methods were therefore preferred over the gel based method.

Once the proteins of interest have been identified, the results can be verified by using a targeted approach such as MRM technique. MRM is a method for detecting and quantifying peptides and ultimately proteins of interest. It does this by the acquisition of a pre-selected fragment ion produced by a pre-selected precursor. This can be achieved on a tripe quadrupole instrument such as AB Sciex 4000 QTRAP (92).

In order to derive biological context on the potential significance of proteome differences between Nguni and Hereford cattle liver function, differentially expressed proteins between these two breeds will be mapped using the Reactome tool (93), or similar or complementary gene ontology mapping tools, onto known biological processes, in order to identify pathway(s) that are significantly

overrepresented and may thus play an important functional role. Knowledge gained from this work can then be combined with parallel research findings arising from enzymatic studies on Nguni and Hereford cattle liver function, and those arising from sequencing the genomes of the experimental animals, in order to establish a better understanding of fundamental differences that may contribute to enhanced performance by Nguni cattle under adverse conditions.

4.6. Conclusion

The Nguni cattle have been reported to be metabolically superior to other locally available breeds under unfavourable conditions, enabling them survive harsh environmental challenges. Current evidence implicates a role of the liver in contributing significantly to this enhanced ability. To determine which molecular traits are potentially responsible for this enhanced metabolism, a set of analytical methods that could efficiently profile the complex proteome of the liver tissue was established. When the gel-based (2DE gels) and solution-based (SCX-RP, IEF-RP and RP-RP) fraction techniques were compared we found that the IEF-RP and RP-RP methods achieved similar results. Identified proteins that play a role in the urea pathway were all shared between the two techniques. RP-RP was eventually selected as the most suitable method to use for profiling the proteome of cattle liver and will be used in the next phase of this project. The main reason for this selection was because the method is more automated than the IEF-RP method, and is thus less prone to variability due to human intervention.

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APPENDIX

The appendix containing the tables that are listed below can be found in the CD attached.

Table 1: List of proteins identified from RP-RP fractionated samples using PEAKS v 6

Table 2: List of peptides identified from RP-RP fractionated samples using PEAKS v 6

Table 3: List of proteins identified from RP-RP and IEF-RP fractionated samples using PEAKS v 6

Table 4: List of peptides identified from RP-RP and IEF-RP fractionated samples using PEAKS v 6

Table 5: Consumable Cost Calculations for the Gel Based Technique

Table 6: Consumable Cost Calculations for the Solution-Based Technique

Table 7: Gene ontology data list of proteins from the pooled and non-pooled RP-RP experiments

Table 1: List of proteins identified from RP-RP fractionated samples using PEAKS v 6

	Pooled Samples						Non-Pooled Samples					
Protein accession #	Score	#Spec	#Pep	#Uniq	%Spec	%Cov	Score	#Spec	#Pep	#Uniq	%Spec	%Cov
E1BNJ0							39.4	1	1	1	4.55	4.88
Q29RK1							51.5	2	2	2	4.26	2.36
F1MV93	33.35	1	1	1	4.17	8.58						
P10096	137.94	15	11	11	30.56	33.63	183.06	24	15	15	41.67	46.25
F1MJQ1	33.12	1	1	1	3.7	4.83						
Q28034							78.25	4	3	3	5.77	6.19
F1N5F8	88.01	4	3	2	7.89	12.3	100.79	9	6	5	15.79	20.59
A7MBE8	57.18	2	2	2	4.76	6.51	133	5	5	5	11.9	21.09
E1BHR3							30.19	1	1	1	3.03	4.32
E1BA13	48.53	2	2	2	9.52	18.1	87.74	7	3	3	14.29	35.24
Q3SZV3	50.69	2	2	2	3.7	4.32	59.85	2	2	2	3.7	3.86
G1K193	37.61	2	2	2	8.33	6.27	112.88	7	6	6	25	30.26
Q2TBQ3							126.36	4	4	4	21.05	20.76
Q56JV1							80.31	2	2	2	7.41	20.87
P0CG53	66.06	2	2	2	4.44	5.9						
Q2KIZ3							48.42	1	1	1	5.26	10.29
F1MKA4	35.8	1	1	1	0.68	0.9						
F1N549	90.5	4	4	4	4.21	5.32						
P62803	112.73	13	4	4	16	40.78	136.22	16	5	5	20	41.75
F1MTT7	127.39	7	6	6	16.67	29.37	145.73	13	8	8	22.22	39.93
Q0IIJ2	41.99	1	1	1	1.89	6.7	79.69	2	2	2	3.77	10.82
G1K176	23.32	1	1	1	3.03	2.52	59.46	4	4	4	12.12	11.04
E1BEQ3							50.93	1	1	1	3.12	7.69
F1MD70	70.3	3	3	2	16.67	10.31	48.27	1	1	1	5.56	7.73
E1BGC1	75.06	2	2	2	2.17	3.59	57.87	1	1	1	1.09	2.07
Q5E9B1	119.4	44	5	5	35.71	26.01						
LDHB	118.12	10	7	3	19.44	25.45	162.25	15	12	10	33.33	34.13
Q5E995	34.62	1	1	1	1.96	3.7	50.94	1	1	1	1.96	3.7
P11116	39.08	1	1	1	1.54	4.82	76.86	2	2	2	3.08	10.84
Q56JX5	63.34	2	2	2	15.38	17.78						
RS25	58.79	2	2	2	5.88	14.4	64.8	2	2	2	5.88	15.2
P48644	22.75	1	1	1	7.14	8.08	26.18	1	1	1	7.14	8.08
AL1A1	210.45	56	28	24	51.85	50.9	230.28	89	34	31	62.96	67.86

Q3SZI8	133.84	10	7	7	21.21	22.55	161.49	12	11	11	33.33	35.61
IVD							102.66	4	4	4	9.3	10.8
O18736	134.07	10	8	2	13.79	20.04	174.14	28	19	7	32.76	35.35
F1N6J8							39.93	1	1	1	2.17	1.97
E1BII3	28.55	1	1	1	2.5	7.05	40.03	1	1	1	2.5	8.33
Q4U5R3							71.93	2	2	2	7.14	10.71
PSME1							72.82	4	4	4	9.76	14.06
Q56JU9	89.58	5	5	5	12.5	12.5	140.47	11	10	9	25	22.79
P20821							38.7	1	1	1	2.78	9.16
GCSH	48.74	1	1	1	5.26	6.36	69.99	2	2	2	10.53	17.92
A6QR56							222.72	39	29	2	50.88	53.31
A4FUZ6							86.82	2	2	2	3.17	3.12
HSDL2	78.18	3	3	3	6.12	8.61	119.54	5	4	4	8.16	11
Q3ZC57							102.91	4	4	4	14.29	23.5
G1K127	145.25	17	11	2	23.91	26.39	197.09	30	22	3	47.83	42.66
F1MRF5	142.42	8	8	8	12.5	17.45	156.57	9	8	8	12.5	14.66
E1BEI2							28	1	1	1	3.45	3.48
F1MG20	133.97	11	7	5	21.21	25.86	163.55	11	8	6	24.24	29.6
P33097							177.68	14	12	8	19.67	17.5
Q3MHM6	138.75	13	9	9	19.57	28.33	205.18	22	15	15	32.61	43.83
A2I7M9							37.23	1	1	1	0.83	1.32
SPA32	86.02	4	4	4	9.3	10.95	108.2	5	5	4	11.63	12.41
E1BL18	44.82	1	1	1	3.7	5.2	23.78	1	1	1	3.7	4
F1MTR1	173.07	16	13	13	6.47	10.61	188.62	17	16	16	7.96	11.33
E1BK63							44.6	2	2	2	4.44	7.84
Q29RS1	145.49	11	9	8	24.32	35.67	160.35	19	13	11	35.14	41
E1BAP2							126.57	5	5	5	8.77	12.45
Q5E956	55.32	2	2	2	4.76	7.48	74.05	3	3	2	7.14	8.72
A5D7A0	46.61	1	1	1	3.57	6.02	177.21	13	11	10	39.29	50.6
EFHD2	39.89	1	1	1	2.7	4.13	29.1	1	1	1	2.7	4.13
G1K1X1	56.54	1	1	1	1.54	4.1						
Q0PH99							78.65	1	1	1	4.17	5.98
Q05927							81.52	3	3	3	13.64	16.02
Q6B410	48.3	1	1	1	1.79	1.57	27.52	1	1	1	1.79	1.57
LYSI	26.1	1	1	1	4.17	6.8						
Q0VCA8							43.29	1	1	1	3.7	7.09

Q95140	131.22	9	7	7	21.88	30.42	142.69	12	8	8	25	36.01
RLA0	95.75	3	3	3	9.09	10.06	80.75	2	2	2	6.06	7.23
F1MWY9							85.29	3	2	2	9.09	15.49
Q08D86-2	92.48	7	6	6	13.04	18.52	149.32	12	11	11	23.91	32.1
P14568							38.77	1	1	1	3.03	4.59
ASSY	162.35	28	18	18	36	45.15	196.55	42	23	23	46	54.61
Q32PD5							28.29	1	1	1	1.82	2.35
P52556	26.17	1	1	1	3.57	6.21	51.06	2	2	2	7.14	15.17
BLVRB	99.21	2	2	2	10.53	18.45	116.81	4	3	3	15.79	20.39
A3KN02	97.65	4	4	4	7.27	9.86						
F1MX05	24.61	1	1	1	2.33	1.85	63.6	3	3	3	6.98	7.39
P63103	71.66	4	3	3	9.68	14.89	132.45	9	6	6	19.35	24.43
1433Z	63.69	4	3	3	9.38	14.69						
E1BGW2	86.9	4	4	2	14.29	19.84	116.19	12	5	2	17.86	28.57
F1N0E5	59.35	2	2	2	3.17	5.32	60.5	1	1	1	1.59	2.39
Q95108							48.82	7	2	2	6.67	11.76
THIOM	23.98	1	1	1	5	9.04						
A7MBE6	70.29	6	4	4	6.67	7.09	129.96	10	9	9	15	16.55
A5PJA6	119.4	44	5	5	35.71	26.01	166.77	42	15	15	107.14	39.46
Q76I81							63.44	1	1	1	2.17	4.21
F1N632	58.71	3	3	3	7.14	6.37	75.27	3	3	3	7.14	6.81
Q29RV1							35.99	1	1	1	5	7.58
Q58D49	75.47	4	4	4	3.42	3.83	72.2	2	2	2	1.71	2.06
Q0P5B7	160.22	16	12	12	14.12	18.66	215	26	22	22	25.88	37.33
Q58DC0-2							41.05	1	1	1	2.78	4.15
AAAD	123.19	7	6	6	13.64	23.81	177.81	12	11	11	25	40.6
CPPED							48.68	1	1	1	3.12	3.5
P54149	32.73	1	1	1	2.56	8.7	72.32	2	2	2	5.13	10.87
Q08DA1	77.92	4	4	4	13.79	25.17	51.85	1	1	1	3.45	6.8
cont	103.4	6	6	6	25	33.05	106.29	7	6	6	25	37.77
P79110	116.99	6	6	3	6	6.95	154.57	10	10	7	10	11.66
Q3ZBA8							54.56	1	1	1	1.08	1.41
Q3T0C6							80.56	3	3	3	7.32	11.25
A5D989	133.63	14	13	13	20	25.94	178.12	17	16	16	24.62	24.35
Q08D86	103.1	3	3	3	12	13.17	89.78	2	2	2	8	7
EF1D	48.09	2	2	2	7.14	6.45						

GLPK5	56.14	1	1	1	2.78	4.29	59.18	2	2	2	5.56	7.5
Q0VCM5	38.71	1	1	1	2.13	1.7	38.77	1	1	1	2.13	3.22
Q5MYB8	24.98	1	1	1	2.94	3.7	36.81	1	1	1	2.94	3.7
P21327							163.61	20	11	3	22	18.41
F1MCZ6	62.17	2	2	2	1.98	2.87	70.85	3	3	3	2.97	2.98
Q2KIR7	32.76	1	1	1	4.17	3.27						
G1K1S2	33.06	1	1	1	2.56	3						
P50397	125.48	9	6	6	20.69	23.37	203	28	14	14	48.28	60.92
E1BFV1	130.45	17	10	9	34.48	36.27	208.34	42	20	20	68.97	63.39
Q59HJ6	65.72	3	3	3	6.25	6.02	129.37	7	6	6	12.5	13.15
P11024	153.2	11	9	6	15.79	20.9	158.01	12	10	6	17.54	20.67
Q2KIL9	113.71	5	4	4	11.43	14.37	118.29	9	6	6	17.14	20.49
P00829	73.5	3	3	3	2.44	3.33	65.5	2	2	2	1.63	2.5
P00442	160.8	14	14	14	17.72	17.31	216.33	21	20	20	25.32	19.24
P63048	125.89	14	9	8	18.37	19.29	201.96	37	22	1	44.9	33.45
P61585	209.54	41	22	22	44.9	56.44	246.35	48	24	24	48.98	64.58
O46629	126.74	6	4	4	30.77	38.82	143.54	13	5	5	38.46	48.03
RHOA	66.06	2	2	2	7.69	14.06	86.43	5	3	3	11.54	26.56
A3KN04	42.55	1	1	1	3.57	12.44						
Q3SZI6	168.87	12	9	9	18.37	18.95	176.12	17	11	11	22.45	25.05
F6Q4J9	148.05	10	10	9	14.93	22.66	142.03	8	8	8	11.94	16.58
RPN2	65.57	4	4	3	7.41	6.41						
Q27966-2	97.91	4	4	4	14.29	24.21	160.64	13	10	10	35.71	42.14
F1N5D6	65.72	3	3	3	6.12	6.02	129.37	7	6	6	12.24	13.15
MYO1C	44.43	1	1	1	2.38	3.14	73.64	2	2	2	4.76	8.01
Q3ZBX9	49.74	2	2	2	4.26	7.25	85.69	2	2	2	4.26	7.25
F1MZW9							51.51	1	1	1	0.68	1.07
H2AJ	22.85	1	1	1	2	3.24						
Q6EWQ7	97.21	3	3	3	6.52	12.25	172.45	8	8	8	17.39	27.39
E1BLS8	69.21	10	3	1	11.54	20.93						
Q5E946	46.07	1	1	1	2.17	2.27						
Q29RU9	35.42	1	1	1	1.2	1.08						
PARK7	74.37	3	2	2	11.76	22.73	85.77	3	2	2	11.76	23.38
SOX	66.65	3	3	3	4.84	6.73	112.68	6	6	6	9.68	15.05
P23004	92.05	4	4	4	15.38	19.05	120.51	6	6	6	23.08	34.39
E1BHE2	98.2	4	4	4	10	14.03	73.07	4	4	4	10	11.22

QCR2	30.5	1	1	1	1.56	1.48	97.27	3	3	3	4.69	6.4
F1MPS3	104.78	7	6	1	15	11.03	164.88	23	13	1	32.5	24.83
A6QLP7	131.55	7	6	6	13.95	17.66	140.1	9	8	2	18.6	25.17
F1N6Y8	66.78	3	3	3	10.34	12.5	123.48	6	6	5	20.69	30
SSRA							35.02	1	1	1	3.85	3.94
E1BGR9	31.85	1	1	1	2.86	5.36						
E1BFB0	30.21	1	1	1	4	5.24	77.14	2	2	2	8	8.04
Q3SYT8	47.51	2	2	2	7.14	13.93	63.38	3	3	3	10.71	22.95
F1MSB7	116.05	10	10	9	2.89	4.64	155.78	10	10	9	2.89	4.48
F1MSB7	97.78	4	4	2	7.02	7.88	143.61	15	10	3	17.54	15.76
Q01321	89.85	5	5	1	6.85	8.76	119.11	5	5	5	6.85	8.61
A4IFU5	97.03	5	5	5	6.58	11.65	122.55	7	5	5	6.58	7.23
NDUA4	123.66	10	8	8	14.81	22.37						
Q3SYZ6	69.21	10	3	1	11.54	20.77						
Q3ZC42	38.26	1	1	1	8.33	12.2	41.53	1	1	1	8.33	14.63
E1B7X7							41.77	1	1	1	1.92	1.78
ADHX	125.89	14	9	8	18	19.26						
Q3ZCI9	37.51	2	2	2	5.41	5.31	107.24	3	3	3	8.11	9.59
Q3MHM7	88.01	4	3	2	7.89	12.3	100.79	9	6	5	15.79	20.59
F1MX22	59.76	2	2	2	4.08	7.74	83.05	3	3	2	6.12	10.53
RL35	45.39	3	2	2	5.88	6.55						
F1MXA7	56.77	1	1	1	1.75	2.01	60.61	2	2	2	3.51	5.11
P02253	38.92	1	1	1	2.5	8.13	42.81	1	1	1	2.5	8.13
F1MZ62	36.09	2	2	2	8	6.85	40.18	3	2	2	8	6.85
Q58DW0	30.5	1	1	1	2.78	2.56						
F1MQ27	176.45	20	15	15	13.04	21.96	204.86	32	20	19	17.39	29.28
F1MQ27	97.65	4	4	4	20	20.19						
F1MUW8	58.63	1	1	1	3.23	3.08	58.11	1	1	1	3.23	3.08
A5PK65	54.43	3	3	3	3.3	7.11	84.27	4	4	4	4.4	10.9
Q3T114	46.38	2	2	2	9.09	7.98	106.08	8	8	8	36.36	31.38
F1MVU9	28.29	1	1	1	2.44	3.02	93.43	3	3	3	7.32	11.54
UK114	57.95	1	1	1	3.57	5.2						
Q58DA7	85.06	13	4	4	28.57	34.75	108.77	10	6	5	42.86	68.64
A6QR15	141.71	11	8	8	66.67	67.15	158.89	8	7	7	58.33	67.15
A6QR15	58.79	2	2	2	5.56	13.33	64.8	2	2	2	5.56	14.07
E1B6Z7							58.65	2	2	1	3.77	7.04

Q2TBV3							44.05	1	1	1	2.5	3.89
A7MBH9							41.05	1	1	1	2.78	4.15
Q2NL00	38.56	1	1	1	1.92	3.05						
F1N3B0	22.85	1	1	1	2.17	3.1						
GSTT1	143.58	8	6	6	15.38	27.06	159.22	11	10	10	25.64	43.53
Q5E9M8							66.18	2	2	2	4.08	4.46
E1BBP7	25.14	1	1	1	3.45	7.92	78.64	4	4	3	13.79	23.33
Q3T0Y5	56.88	2	2	2	5.41	6.73	82.43	2	2	2	5.41	7.74
F1MVY3	112.73	13	4	4	16.67	40.78	136.22	16	5	5	20.83	41.75
PSA2	103.7	3	3	3	9.09	9.94	144.92	7	7	7	21.21	29.19
E1BKB5	32.73	1	1	1	3.12	8.94	72.32	2	2	2	6.25	11.17
F1N441	53.61	2	2	2	8.33	14.1						
F1MRN2							37.86	1	1	1	2.44	2.68
Q3T199							86.82	2	2	2	3.12	3.12
F1MU24	69.21	10	3	1	11.11	20.93						
Q76LV2							57.79	1	1	1	1.37	3.95
A6QQF5	57.95	2	2	1	2.2	3.14						
HS90A							50.93	1	1	1	3.12	7.69
Q3ZBV8							51.51	1	1	1	0.67	1.05
Q5EA61	131.12	6	6	4	5.5	9.28	146.8	9	9	7	8.26	14.05
SYTC	76.04	4	4	4	13.33	16.91	104.48	5	5	5	16.67	18.05
KCRB	112.73	5	5	5	9.8	9.64	163.01	11	10	10	19.61	22.03
Q3SZ65							35.32	1	1	1	1.04	1.38
F1N2L9							34.34	1	1	1	2.5	2.62
IF4A2							49.37	2	2	2	2.67	3.6
E1BNQ4	140.56	12	10	8	18.87	16.51	191.42	20	14	13	26.42	31.67
E1BLC2	53.02	2	2	2	4.08	5.65						
Q2HJD7	33.98	1	1	1	2.78	3.95						
F1MDH3	112.73	13	4	4	16	40.78	136.22	16	5	5	20	41.75
3HIDH	32.6	1	1	1	12.5	14.67						
Q56JU9-2	67.52	2	2	2	0.76	1.02	82.96	3	3	3	1.14	1.57
E1BBT0	90.06	4	3	3	9.09	7.14	182.5	13	11	11	33.33	38.99
Q9XSJ4	54.73	2	2	2	3.28	5.07	49.43	1	1	1	1.64	2.43
F1N0L6	110.58	8	6	6	16.67	23.62	119.25	9	8	7	22.22	27.61
ENOA							38.7	1	1	1	2.86	9.23
Q2UVX4	24.81	1	1	1	2.86	3.62	52.05	2	2	2	5.71	9.06

P56658	162.62	10	9	6	16.36	31.57						
F1MTZ7	32.73	1	1	1	2.86	10.06						
Q3ZCH0	130.45	17	10	9	34.48	36.39						
Q5EAD6	119.78	10	10	8	5.13	6.62	152.1	15	15	13	7.69	9.81
F1MWU0							34.35	1	1	1	2.63	2.48
Q3T0R7	119.38	8	7	6	12.28	16.97	180.83	17	15	12	26.32	36.36
Q95M18							28.01	1	1	1	2.22	2.25
E1B9X2	142.95	12	10	10	11.24	17.82	184.24	10	10	10	11.24	20.03
Q3MHR0							44.6	2	2	2	4.44	7.84
Q0VCM4	28.53	1	1	1	1.96	2.79						
E1BEL9	178.75	31	17	17	41.46	43.83	221.23	53	26	26	63.41	60.71
P84227	176.45	20	15	15	13.16	22.01	204.86	32	20	19	17.54	29.35
F1ME46							41.77	1	1	1	1.96	1.78
Q5EAD2	70.68	3	2	2	11.76	10.43	87.95	3	3	3	17.65	15.65
F1MZD5	216.46	33	20	19	18.35	28.44	260.27	55	39	36	35.78	46.42
SERA	65.64	2	2	2	3.64	4.27	113.9	6	6	6	10.91	13.01
F1N6N3							48.82	7	2	2	6.67	11.76
E1BLN2	132.6	14	7	7	22.58	25.81	146.13	11	8	8	25.81	30.11
G1K1R4							97.41	4	4	4	9.76	9.19
E1B9M9							59.86	1	1	1	1.39	2.02
Q148D6							78.64	3	3	2	4.62	5.94
Q1JPJ8	53.02	2	2	2	4.08	5.64						
P62866	112.73	13	4	4	16	40.78	136.22	16	5	5	20	41.75
Q9TTJ5	46.64	2	2	2	10.53	7.72						
A6H7J6	168.36	20	11	11	17.46	29.02	234.93	50	27	27	42.86	56.27
E1B7Z2	38.44	1	1	1	1.25	1.89						
F1N6Y1	30.35	1	1	1	4.76	16.95						
F1MER7	155.42	20	10	10	27.03	49.83	201.1	24	16	16	43.24	65.89
P80311	22.75	1	1	1	4.76	4.57	26.18	1	1	1	4.76	4.57
F1MNB1	93.14	4	4	4	4.6	7.25	121.87	8	8	8	9.2	12.01
Q3SZB7	28.96	1	1	1	0.34	0.3	73.86	1	1	1	0.34	0.3
F1MX88	94.54	4	4	4	7.69	11.11	144.55	8	8	8	15.38	20.67
F16P1	136.09	11	7	7	20.59	32.87	171.46	15	8	6	23.53	39.81
G1K1L7	171.7	16	15	11	24.19	29.53	208.29	18	16	12	25.81	38.31
F1MF47	161.12	11	9	9	23.08	35.8	192.2	14	13	13	33.33	48.52
Q2HJF4	26.17	1	1	1	3.33	5.73	51.06	2	2	2	6.67	14.01

P08760							24.12	1	1	1	1.43	0.87
ATP5J	38.75	1	1	1	3.12	4.17	49.46	1	1	1	3.12	4.17
P02721	99.06	5	5	5	16.67	26.87	134.88	7	6	6	20	28.19
F1MZN9							37.25	1	1	1	0.95	1.66
Q32L40							72.14	2	2	2	11.76	22.22
F1MD11	93.91	10	6	5	15.79	14.93	141.61	17	11	8	28.95	30.13
F1MMK0							51.54	2	2	2	2.99	3.6
E1BP41	170.11	10	7	7	14.89	19.81	152.14	8	6	6	12.77	14.56
E1BBX6	35.26	1	1	1	2.04	4.11	37.84	1	1	1	2.04	4.11
S61A1	123.4	7	6	6	22.22	39.71	171.15	7	7	7	25.93	37.13
Q5EA68	54.73	2	2	2	3.33	5.1	49.43	1	1	1	1.67	2.45
P11178							206.84	26	22	1	16.18	16.65
P11179							47.32	2	2	2	5.71	4.2
Q58DU5	40.52	1	1	1	1.92	2.2	47.64	1	1	1	1.92	2.2
Q01361	76.32	4	4	4	7.55	10.33	126.57	5	5	5	9.43	12.53
P5CR3	32.31	1	1	1	3.23	3.92						
Q58D08	145.25	17	11	2	23.91	26.6	197.09	30	22	3	47.83	43
Q9N1U7	97.43	7	7	6	6.19	7.58	175	14	14	14	12.39	16.3
E1BP96	40.47	1	1	1	4.17	3.57	52.83	1	1	1	4.17	3.57
Q3T046	131.32	16	9	9	22.5	29.38						
E1BGN3	52.09	2	2	1	2.53	2.69						
A5PJV3	57.95	1	1	1	3.7	5.31						
Q29448							48.82	7	2	2	6.67	11.76
E1BCZ8	78.93	4	4	4	26.67	36.05	120.42	7	5	5	33.33	46.94
E1BGL0							104.7	4	4	4	8.7	14.08
Q56JX8	106.82	3	3	3	9.09	14.46	120.71	5	5	5	15.15	21.23
F1MDS3							101.59	10	6	1	11.76	9.33
P07514	44.43	1	1	1	2.56	3.17	73.64	2	2	2	5.13	8.1
F1MGG6	78.99	4	4	4	12.12	29.14	107.83	4	4	4	12.12	29.14
A0JN39	145.16	9	8	8	12.31	15.78	175.97	18	16	15	24.62	27.03
P02465	131.22	9	8	1	23.53	25.25	180.76	14	11	11	32.35	45.18
P00515	37.1	1	1	1	7.14	12.05	36.44	1	1	1	7.14	12.05
F1MXK5							61.01	1	1	1	0.94	1.15
F1MTZ1							48.92	1	1	1	0.86	1.1
P07107	55.83	1	1	1	2.08	3.74						
Q8HZJ8	103.1	3	3	3	11.11	13.13	89.78	2	2	2	7.41	6.98

F1MV80							186.82	12	12	12	20.34	25.64
F1ML72	80.65	6	3	3	20	39.08	109.2	6	5	5	33.33	59.77
PEBP1	63.71	2	2	2	6.06	6.4	58.09	2	2	2	6.06	6.4
P13696	112.06	5	4	4	12.5	15.41	133.57	12	5	5	15.62	18.49
HS71B	96.6	3	3	3	5.36	8.11	61.39	2	2	2	3.57	4.5
Q27965							34.44	2	1	1	3.03	5.47
Q02373	75.23	4	2	2	9.09	18.18	175.88	11	8	8	36.36	59.89
Q2KJF1	110.19	5	5	5	11.63	13.54	99.33	4	4	4	9.3	9.93
E1BEL7	106.44	7	7	1	8.43	13.1						
HS71A	30.56	1	1	1	3.23	7.95						
Q27975							61.79	2	2	2	5.13	4.77
Q3T0R4	86.9	4	4	2	14.29	19.84	116.19	12	5	2	17.86	28.57
O02691	120.16	11	7	7	30.43	46.57	153.91	11	7	7	30.43	52.45
O62654	106.44	7	7	1	8.43	13.1						
AK1A1							72.74	1	1	1	2.56	4.62
Q3ZCJ2	218.24	33	13	13	52	65.52	233.62	42	20	20	80	84.67
F1N338							78.64	3	3	2	4.62	5.96
RS4	69.21	10	3	1	11.54	20.77						
P79103	115.83	9	7	7	18.42	24.62	173.81	19	14	11	36.84	44.31
P61284	69.92	4	4	4	15.38	12.87	117.75	6	6	6	23.08	25.41
Q3T0U2	147.45	14	9	8	21.95	36.94	171.38	19	13	13	31.71	54.46
E1BPF8	55.08	2	2	2	4.17	7.6	72.94	4	4	1	8.33	13.31
F1MYC9	31.92	1	1	1	0.41	0.46	82.62	4	4	1	1.64	1.5
F1MN79							76.17	3	3	3	11.54	28.48
E1B816	47.32	1	1	1	1.89	5.61	57.23	1	1	1	1.89	5.61
F1MFY3	117.48	8	7	7	12.28	16.54	140.99	8	8	8	14.04	21.1
RS3	22.47	1	1	1	33.33	61.11	31.61	1	1	1	33.33	61.11
Q3T169	79.94	4	4	3	1.22	1.52	86.07	6	6	6	1.83	2.67
E1BCD2	142.98	13	8	8	15.69	19.55	187.97	17	14	14	27.45	37.47
F2Z4G5	34.55	1	1	1	1.37	1.41	81.87	3	3	3	4.11	4.55
F1MYZ7	30.35	1	1	1	4.17	7.41						
F1MRG7	61.6	3	3	3	8.11	10.7	144.62	7	7	7	18.92	32.51
G1K1B4	28.69	1	1	1	4	4.44						
E1BDC8	60.82	2	2	2	5	6.03						
ST1A1	69.21	10	3	1	11.54	20.77						
P50227	95.45	5	4	4	12.9	11.42	160.55	14	11	11	35.48	28.08

Q58DR8	28.53	1	1	1	2.13	2.84						
Q58D31							37.16	1	1	1	3.03	6.75
F1N301	48.74	1	1	1	5.56	6.43	69.99	2	2	2	11.11	18.13
F1MWU9	111.11	12	7	6	19.44	27.8	131.26	8	7	6	19.44	25.08
G1K1T6	87.09	5	4	4	10.81	13.29	112.04	3	3	3	8.11	13.01
GNAT2	136.61	9	8	8	24.24	30.06	171.47	13	9	9	27.27	39.33
P04696							27.43	1	1	1	3.12	6.88
E1BFL1	37.87	1	1	1	4.17	8.27						
F1MM10	84.09	5	5	1	6.1	9.05	75.34	4	3	1	3.66	3.9
Q58DW2	87.29	5	5	5	12.5	12.37	160.86	11	10	10	25	31.44
G1K1N1	22.85	1	1	1	2.22	3.11						
P19035	120.4	12	9	5	16.67	19.22	146.3	14	11	6	20.37	23.53
Q9TUQ0	85.53	3	3	2	6.25	6.77	80.09	3	2	2	4.17	4.98
P13620	32.44	1	1	1	3.03	3.46						
F1MI32	59.67	3	3	3	9.68	8.81	80.66	4	4	4	12.9	13.37
E1BDT6							72.01	2	2	2	18.18	28.12
Q2KJE7	32.76	1	1	1	1.39	1.17						
F1MPL4	37.24	1	1	1	4	8.07	100.54	4	3	3	12	22.36
NDUS1	56.73	2	2	2	7.14	8.16						
P15690	116.99	6	6	3	6.06	6.95	154.57	10	10	7	10.1	11.66
Q3ZBH8	69.21	10	3	1	11.54	20.77						
Q3MHX0							72.82	4	4	4	9.76	14.06
CP51A	73.28	6	4	4	12.5	15.04	104.55	5	4	4	12.5	15.41
Q4PJW3							31.02	1	1	1	1.32	0.96
A7YWE4	38.93	1	1	1	4.17	10.08	30.9	1	1	1	4.17	10.08
E1BJA8	128.87	10	6	6	21.43	21.69	156.06	10	8	8	28.57	30.85
E1BJA8							70.12	2	2	2	3.85	4.2
Q29443							28.29	1	1	1	1.82	2.39
P17694	161.03	17	13	12	20.97	28.95	189.81	11	11	11	17.74	26.11
F1MT51	82.43	4	3	3	10	14.29	51.42	2	2	2	6.67	10.96
Q5KR49	56.99	1	1	1	2.33	6.8						
E1BF59	121.64	11	10	9	12.05	16.19	218.48	23	19	17	22.89	34.23
Q2KIV7							23.16	1	1	1	2	1.73
F1N6D8	67.56	2	2	2	7.41	8.91	67.73	3	3	3	11.11	14.36
GPDA	35.1	1	1	1	1.85	3.17	74	3	3	1	5.56	10.21
Q5EA88	48.78	1	1	1	5.88	14.77						

TIM8A	75.12	3	3	3	0.43	0.66	95.74	5	5	4	0.72	0.99
Q3ZBS8	85.55	4	4	4	10.26	14.07	85.64	2	2	2	5.13	8.87
Q3T0P6	124.97	11	9	1	18.37	16.48	173.3	22	16	3	32.65	24.63
Q2KJ44							160.86	11	10	10	28.57	34.96
Q2KJ32	135.85	9	9	8	5.73	6.91	161.74	12	12	12	7.64	9
A5D7E8							59.23	1	1	1	11.11	11.34
A5D7R9	151.14	9	9	9	16.98	30.94	159.05	11	11	11	20.75	36.69
F1MUX6	33.98	1	1	1	2.78	3.09						
G1K1R1	154.57	16	11	11	23.4	26.91	186.39	15	14	14	29.79	36.02
G1K231	113.48	9	8	3	15.69	18.83	151.68	12	12	5	23.53	20.65
Q2KIS5	157.97	17	12	12	16.22	25.35	210.2	35	23	23	31.08	48.51
Q3ZC41	32.6	1	1	1	4.35	5.82						
F1ML83	141.48	11	7	5	23.33	33.33	156.39	12	7	6	23.33	36.04
F1MV16	39.89	1	1	1	2.7	4.22	29.1	1	1	1	2.7	4.22
AL7A1	150.74	20	12	12	32.43	56.32						
Q2KJC9	110.13	10	8	7	19.51	24.68	152.41	21	11	9	26.83	37.97
Q56JX3	167.7	19	11	11	25.58	37.03	192.84	22	16	16	37.21	47.88
F1MSZ6							54.25	2	2	2	4.17	4.03
E1BC28	58.79	2	2	2	6.06	13.53	64.8	2	2	2	6.06	14.29
ACOX1	123.66	10	8	8	14.81	22.45						
Q3SZP5							38.31	1	1	1	3.23	6.4
P68530	69.21	10	3	1	11.54	20.77						
Q58DK4							39.05	1	1	1	1.82	2.37
F1MUZ9	36.69	1	1	1	1.85	2.87						
F1MFZ4	69.56	4	4	4	6.15	13.18	137.13	6	6	6	9.23	13.48
P00125							88.63	3	3	3	27.27	17.62
P48034							166.83	8	7	7	13.46	17.3
Q5E9N4	86.1	4	4	3	10.81	12.11	98.73	10	5	4	13.51	14.47
Q0P5L8	228.3	36	19	19	26.03	45.9	229.5	52	27	27	36.99	60.91
Q9XSW5							60.02	1	1	1	3.03	3.69
Q3SZ43							205.23	26	22	1	16.18	16.88
F1N4Q0	39.22	1	1	1	2.33	2.12						
P04896	99.6	5	3	3	6.82	10.98						
F1MFQ2	32.76	1	1	1	1.32	1.08						
Q3B7N2							34.72	1	1	1	5.26	6.9
Q5E9E2	40.9	1	1	1	3.03	6.36	59.37	1	1	1	3.03	6.36

A5PK63	22.85	1	1	1	1.82	2.79	35.06	1	1	1	1.82	2.79
P80425	114.65	9	9	9	15.25	21.65	101.26	6	6	6	10.17	12.99
F1MK08	106.5	7	7	4	6.8	9.64	161.92	10	8	2	7.77	11.43
Q3MHK8							164.8	6	5	5	21.74	34.88
P02510							43.29	1	1	1	3.7	7.41
Q5E987	112.33	13	4	4	21.05	38.58	118	25	8	8	42.11	46.46
P31976	88.88	4	4	4	9.76	10.3	109.76	6	5	5	12.2	12.08
G1K1R6							91.85	5	5	5	22.73	22.13
G1K236	26.14	1	1	1	4.76	4.57	70.8	2	2	2	9.52	21.14
F1MGV4	47.27	2	2	2	10	10.79	81.12	3	3	3	15	14.94
Q2HJH2							51.04	2	2	2	2	2.93
Q3MHX5	124.99	6	6	5	17.14	20.1	118.61	5	5	5	14.29	17.3
F1N1T4	28.55	1	1	1	2.78	7.33						
Q3SZ90	26.89	1	1	1	2.44	2.53	79.19	4	4	3	9.76	8.3
Q24K16	36.69	1	1	1	4.17	5.47						
P25417	120.63	8	6	6	11.76	14.58	158.92	13	11	11	21.57	29.17
E1BIL1	32.73	1	1	1	3.03	8.89	72.32	2	2	2	6.06	11.11
Q07130							23.56	1	1	1	2	3.94
Q3SZV7	59.54	3	3	3	7.89	9.02	109.89	5	5	5	13.16	14.59
F1MRM0							29.24	1	1	1	7.69	12.24
F1MHN9	22.85	1	1	1	1.56	2.88						
Q32L48	114.65	9	9	9	15	21.65	101.26	6	6	6	10	12.99
G1K1F6	34.62	1	1	1	1.96	3.7	50.94	1	1	1	1.96	3.7
E1BKD7	32.6	1	1	1	3.12	5.85						
F1MEQ3	111.82	8	6	2	11.32	12.98	168.68	17	14	9	26.42	29.65
F1MKZ5	80.38	4	4	1	14.29	19.84	107.47	7	5	1	17.86	28.57
F1MPK4	99.6	5	3	3	6.38	10.57	170.28	10	8	8	17.02	28.28
P46193							41.05	1	1	1	2.94	4.07
P13272							126.57	5	5	5	8.93	12.5
G1K122	39.08	1	1	1	1.54	4.82	76.86	2	2	2	3.08	10.84
Q0VCY1	49.74	2	2	2	4.55	7.63	85.69	2	2	2	4.55	7.63
Q5E9F7	62.46	2	2	2	3.77	8.38	78.44	1	1	1	1.89	3.76
F2Z4F5							41.6	2	2	2	6.67	7.66
E1BGI0							93.91	5	4	4	15.38	19.9
P02722							33.68	1	1	1	3.03	4.82
F1MJL2	80.21	2	2	2	6.9	20.48	63.08	1	1	1	3.45	12.05

F1MLX9	109.56	3	3	3	3.95	6.71	119.44	5	5	5	6.58	7.95
A4IFP7							38.91	1	1	1	0.74	1.28
Q3SZ20	100.35	10	8	4	19.51	26.85	150.69	10	8	3	19.51	27.18
O18879	58.79	2	2	2	8	16.36	64.8	2	2	2	8	17.27
E1BB13	44.06	1	1	1	2.33	2.42	67.71	1	1	1	2.33	3.38
Q24K14	68.44	3	2	2	10	11.67						
F1N0W3	77.35	3	3	3	5.26	5.75	122.56	4	3	2	5.26	6.75
Q3T0B6	99.56	17	7	1	21.21	29.6	147.35	21	9	3	27.27	43.05
Q28035	39.08	1	1	1	1.89	4.96						
F1MT58	132.19	12	9	9	23.08	30.68	169.29	21	13	13	33.33	47.49
F1MNX2							72.32	2	2	2	5.13	10.7
Q3SZ54	43.01	1	1	1	3.7	3.96						
F1MCZ4	127.47	26	11	3	34.38	40.99	157.53	32	11	5	34.38	45.05
Q1RMT3	144.22	18	10	7	25.64	31.58	141.71	22	15	11	38.46	50.15
G1K145	52.09	2	2	1	2.47	2.56	91.7	4	4	4	4.94	5.12
F1N650	53.02	2	2	2	4.08	5.67	79.45	2	2	2	4.08	5.67
P00171	28.26	1	1	1	1.45	1.94						
Q8HYJ9	27.53	1	1	1	3.7	5.97						
Q1LZH1							55.86	1	1	1	2.04	4.18
Q2NKR7	62.46	2	2	2	3.77	8.38	78.44	1	1	1	1.89	3.76
Q5E973	90.81	7	3	3	25	15.67	131.66	13	6	6	50	47.76
F2Z4C1	67.79	4	4	4	7.14	11.47	187.93	19	15	15	26.79	32.89
F1MP67	70.41	5	4	4	9.52	13.1	133.03	7	7	7	16.67	23.81
F1MYV0							33.59	1	1	1	3.45	7.05
E1BJU8							116.11	6	5	5	10.42	30.85
F1MZ70	105.88	8	6	6	15	18.18						
P81947	126.15	11	8	1	15.69	21.95						
E1B8G9	47.71	1	1	1	1.82	2.57						
F1N0H3	167.77	20	12	1	21.43	26.47	224.95	37	27	4	48.21	49.53
E1BJA2	32.73	1	1	1	3.57	11.85						
O18789	105.88	8	6	6	15	18.18	107.79	4	4	2	10	11.97
Q3MHL4	86.9	4	4	2	12.9	18.66						
F1MPK3	25.94	1	1	1	4.35	3.4	40.29	1	1	1	4.35	3.4
Q0P5I5	98.87	4	4	4	4.94	9.3	155.91	9	8	8	9.88	19.58
A4FUD2	78.32	2	2	2	4.17	8.19	45.71	1	1	1	2.08	3.75
E1BAJ4	158.61	25	11	11	25.58	30.32	206.96	40	19	19	44.19	45.83

E1BBF5	36.69	1	1	1	3.45	4.47						
P37980	59.67	3	3	3	9.68	8.87	80.66	4	4	4	12.9	13.46
A6QLL8	37.7	1	1	1	3.03	3.59	58.2	1	1	1	3.03	3.59
Q58DW5							43.43	1	1	1	2.94	3.83
E1B9K1							28.18	1	1	1	0.69	1.22
P38657	74.06	3	3	3	8.57	11.76						
P05631	34.15	1	1	1	2.5	3.3						
P56701							55.86	1	1	1	1.72	4.04
Q3ZBU7	66.06	2	2	2	16.67	23.38						
F1MRH2	157.97	17	12	12	16.44	25.35	210.2	35	23	23	31.51	48.51
F1MLX0	77.45	5	5	5	12.2	17.79	144.79	7	6	6	14.63	21.81
F1MS11							58.3	2	2	2	2.27	2.75
P24627	85.65	4	4	1	11.11	12.39	161.48	11	10	2	27.78	26.13
A7MBF1	71.67	3	3	2	5.56	8.72	121.13	9	7	4	12.96	17.85
A6H783	78.92	4	4	4	13.33	15.29	78.59	2	2	2	6.67	8.28
F1N0M0							29.24	1	1	1	7.14	11.43
P19879							84.75	4	3	1	3.45	4.38
A7MB62	68.36	3	3	3	8.11	8.94	31.74	1	1	1	2.7	2.42
F1N572	85.53	5	3	2	9.38	11.97	80.83	2	2	1	6.25	8.1
G1K1Z7							26.59	1	1	1	0.81	0.8
F1MQM4	48.49	2	2	2	5.41	8.36						
Q3ZCJ6	28.53	1	1	1	2.04	2.79						
P20000							35.99	1	1	1	5.26	7.41
A7E3W4	32.31	1	1	1	4.35	6.87	58.67	3	3	3	13.04	19.85
Q5E9F8	48.3	1	1	1	1.79	1.51	27.52	1	1	1	1.79	1.51
P26452	140.84	17	10	10	21.28	25.06	200.62	44	26	26	55.32	53.22
E1BCL3	203.29	50	21	18	37.5	40.77	248.54	59	30	28	53.57	63.08
E1B9K8	102.86	5	5	5	7.94	11.74	118.12	7	7	7	11.11	13.42
Q3SZ62							48.82	7	2	2	6.67	11.76
F1MYM9	106.01	4	4	4	14.81	16.27	77.43	2	2	2	7.41	7.8
E1BG46							73.67	2	2	2	5	13.79
P48818	111.11	12	7	6	20	27.89	131.26	8	7	6	20	25.17
F1N1T5							97.88	3	3	3	9.09	16.93
Q3ZBT1	110.13	7	6	3	1.85	4.24	138.57	7	6	2	1.85	4.04
F1MZW4	32.73	1	1	1	2.27	8.38						
F1MEU1	178.25	11	11	11	15.28	23.21	221.85	20	17	17	23.61	32.52

P61157	233.66	45	32	27	34.04	48	289.24	61	46	40	48.94	64.86
F1MB08	109.21	6	6	6	6.12	8.81	146.1	12	10	8	10.2	13.4
F1MEN8	45.39	3	2	2	5.71	6.79						
E1BMJ0	97.91	4	4	4	14.81	26.64	160.64	13	10	10	37.04	46.37
E1BI94							39.93	1	1	1	2.22	1.91
P63097	162.62	10	9	6	16.36	31.57	194.17	24	17	10	30.91	38.02
P11181	160.22	16	12	12	14.12	18.66	215	26	22	22	25.88	37.33
F1MEV3							49.38	2	2	2	4.76	3.63
P04394	28.55	1	1	1	2.7	7.38	40.03	1	1	1	2.7	8.72
Q32L99	22.85	1	1	1	2.04	3.11						
Q3ZCJ7	61.34	3	3	3	5.88	9.34	114.71	8	6	6	11.76	14.11
Q3T0L2	38.71	1	1	1	2.08	1.69						
A3KMV5	44.82	1	1	1	3.7	5.22	23.78	1	1	1	3.7	4.02
Q3ZBK2	63.39	3	3	3	10.34	9.69	99.73	4	4	4	13.79	13.68
A4IF97	105.88	8	6	6	15	18.26						
Q3MHN5	41.59	2	2	2	4.76	3.94	59.43	4	3	3	7.14	9.11
F1ME36							41.51	1	1	1	1.03	1.13
P12344							71.93	2	2	2	7.14	11.01
Q8SPX7							164.8	6	5	5	21.74	35.09
P35705	86.97	4	4	4	7.14	12.24	86.53	4	3	3	5.36	5.7
Q3ZBD7	87.44	3	3	3	12	13.24	41.49	1	1	1	4	4.18
P52898	157.48	19	9	9	19.57	25.35	196.07	28	20	20	43.48	53.72
F1N5J8							107.87	4	4	4	11.43	18.07
P62261	121.54	7	6	6	26.09	26.07	142.51	16	8	8	34.78	32.3
P67810	60.81	3	3	3	5.08	5.21	158.56	9	8	8	13.56	17.59
A7MBE0	178.67	33	14	4	37.84	47.37	214.52	42	22	6	59.46	56.66
Q9XSK7	119.7	12	6	6	16.22	22.49	150.71	13	9	9	24.32	34.65
Q3SZ00							103.44	6	4	3	12.12	21.18
Q3SZC1							46.59	1	1	1	4	6.15
F1MNK2							68.17	2	2	2	5	3.73
G1K222							30.19	1	1	1	2.86	3.35
Q3MHN0							246.75	32	21	21	21.88	38.66
Q3SZ18							29.31	1	1	1	3.03	5.07
O97764	149.21	14	10	10	25	26.67	165.85	18	14	14	35	35.13
G1K1X6	49.28	2	2	2	11.11	19.87						
F1MTM8							41.37	1	1	1	5.56	4.6

P28801	97.6	3	3	3	10.34	16.51	114.68	4	4	4	13.79	22.48
P0C0S4	128.73	7	7	7	21.88	30.3	110.14	6	5	5	15.62	16.67
Q56JW4	51.45	3	2	2	4.76	7.49	131.51	6	6	6	14.29	22.16
Q28007	188.92	46	23	23	33.82	36.59	221.36	65	34	2	50	48.49
Q2HJH1							127.4	4	4	4	21.05	29.52
P05630	65.84	10	3	1	12.5	21.09	103.27	16	5	3	20.83	31.25
F1MG79	33.03	1	1	1	4.55	6.11	75.63	2	2	2	9.09	11.67
F1MVL2	90.5	4	4	4	3.67	4.68						
A2VE06	46.07	1	1	1	2.27	2.34						
F1N3H1	82.84	2	2	2	16.67	18.45	118.92	5	4	4	33.33	32.14
A7MBI7-2	156.61	20	12	1	21.05	27.69	188.21	27	16	15	28.07	40
Q3T0K2	143.14	19	12	12	26.09	32.61						
A5D7D1	55.08	2	2	2	4.17	7.6	72.94	4	4	1	8.33	13.31
E1BFG0							52.95	1	1	1	2.56	4.13
A5PK51-2	123.4	7	6	6	25	48.87	171.15	7	7	7	29.17	45.7
Q24JY1	35.73	1	1	1	1.43	1.83	82.04	2	2	2	2.86	4.04
cont	132.71	9	8	4	7.69	12.4	202.2	22	20	13	19.23	29.09
F1MGJ7	123.66	10	8	8	16.33	23.68	177.86	11	11	1	22.45	26.22
F1MU22							66.18	2	2	2	4	4.5
P0CB32	28.55	1	1	1	2.5	7.05	40.03	1	1	1	2.5	8.33
Q7YRW9	65.57	4	4	3	8.51	6.75						
Q3T149	37.46	2	2	1	8.7	7.07						
Q3T189	81.23	5	4	4	10	6.33	143.98	9	8	8	20	13.38
Q2KIL5							126.79	10	8	1	9.64	14.98
Q5E9G0	45.84	1	1	1	4	7.04	103.42	3	3	3	12	17.09
F1MM13	120.16	11	7	7	31.82	47.26	153.91	11	7	7	31.82	53.23
F1N6A0	83.14	4	4	4	10	16.79	143.24	9	8	8	20	25
Q3T054							49.84	2	2	2	2.78	3.84
Q0NXR6							53.58	3	3	3	11.54	14.41
F1MZL3	75.9	5	5	5	7.35	6.57	149	10	10	10	14.71	13.89
F1MZ38	41.85	2	2	2	11.11	15.69	91	5	5	5	27.78	39.71
P04038							26.53	1	1	1	3.7	5.09
F1N2F5	170.11	10	7	7	14.89	19.95	152.14	8	6	6	12.77	14.66
E1BBV5	169.82	13	10	10	29.41	41.18	178.67	16	9	9	26.47	33.75
P62992	87.09	5	4	4	10.81	13.29	112.04	3	3	3	8.11	13.01
F1MZ45	23.5	1	1	1	7.14	9.46						

Q2KIH7							104.7	4	4	4	8.33	13.45
Q3ZCA7	119.4	44	5	5	71.43	70.73						
F1MCI6	48.74	1	1	1	5.88	6.36						
A6QNL5	66.06	2	2	2	5.88	11.54						
P56560	153.29	18	11	5	26.83	34.67	191.7	24	16	6	39.02	46.13
P05632	127.46	8	8	8	16.67	19.29	132.91	7	7	7	14.58	15.52
E1BLC0	22.85	1	1	1	2.04	3.11						
Q3ZBW2	33.93	1	1	1	2.22	1.95						
P19858	161.34	10	7	7	12.96	24.06	186.59	9	8	8	14.81	26.71
F1MNS5	157.57	20	12	1	21.05	28.85	188.21	27	16	15	28.07	40
Q5E9K3	24.7	1	1	1	8.33	15.69						
Q3T0S6	102.96	7	6	6	15.79	20.78	123.4	8	7	7	18.42	25.21
Q5E9G3	84.53	4	4	3	9.76	13.6	120.68	6	4	4	9.76	12.18
F1MPU0	85.26	6	5	3	13.16	17.17	107.15	6	5	3	13.16	14.76
Q9TTK6	57.16	2	2	2	2.13	2.92	127.55	5	5	5	5.32	6.49
P60661							28.43	1	1	1	2.94	3.07
F1ME82	65.46	2	2	2	3.85	10.51						
P61356							37.9	1	1	1	3.33	6.69
Q08DN5	97.6	5	5	5	2.96	4.68						
Q2KIM6	119.4	44	5	5	35.71	26.01						
F1MFF6	137.9	9	9	7	16.67	13.11						
F1N5F2	94.8	4	3	3	20	19.87	131.44	9	7	7	46.67	54.97
Q17QC0	40.26	1	1	1	3.03	3.32	31.82	2	1	1	3.03	3.32
E1B9R3	47.51	2	2	2	5.71	12.5	63.38	3	3	3	8.57	20.59
F1MFB7	45.11	2	2	2	2.94	3.83	71.26	3	3	3	4.41	5.43
Q5E9E6	117.3	5	5	5	23.81	36.87	163.45	10	8	8	38.1	55.3
E1B871	114.47	7	6	2	14.29	15.51						
P02769	40.52	1	1	1	1.92	2.19	47.64	1	1	1	1.92	2.19
F1MQ37	96.35	4	3	3	12	12.37	117.67	8	6	6	24	32.47
F1N206	49.52	1	1	1	0.6	0.72	44.87	1	1	1	0.6	0.85
E1BCE2	103.4	5	5	5	8.77	11	149.96	8	7	7	12.28	21.2
Q3T0X5	49.27	1	1	1	2.44	5.99	60.45	3	3	3	7.32	16.13
Q3ZBX0	32.73	1	1	1	2.27	8.47						
Q2TBQ5	198.7	55	24	24	29.27	34.27						
E1BDK8	159.19	16	15	9	4.56	9.7	216.79	26	24	14	7.29	15.39
Q2HJ74	87.68	3	3	3	5.26	10.19	138.67	5	5	5	8.77	11.54

A4FUA8	139.15	12	8	3	14.29	14.37	188.28	29	18	6	32.14	31
P19120							64.68	1	1	1	3.45	3.42
Q3B7M2-2							32.73	1	1	1	3.03	3.32
Q1LZ95-2	49.45	2	2	2	3.33	7.89	77.05	3	3	3	5	12.03
Q3T087	30.5	1	1	1	2.78	2.56						
F1MG05	151.68	12	9	9	17.31	28.84	206.99	34	20	20	38.46	58.39
E1BIL5	24.81	1	1	1	2.86	3.5	52.05	2	2	2	5.71	8.74
Q3SZL3	155.78	14	13	8	15.85	25.69	164.11	15	13	9	15.85	24.46
G1K1G2	84.26	5	4	4	12.5	21.92	115.03	7	6	6	18.75	27.69
F1MJW6							25.69	1	1	1	2.63	3.14
Q2HJ73	89.34	2	2	2	6.25	12.92	78.02	2	2	2	6.25	12.92
F1MAW2	50.69	2	2	2	3.7	4.32	59.85	2	2	2	3.7	3.86
F1MLK0	69.21	10	3	1	11.54	20.77						
F1MD19							49.04	1	1	1	2.38	2.68
G1K133	86.52	6	3	3	12	14.4	128.6	6	4	4	16	22
F1N3S2	59.76	2	2	2	4.08	7.76	83.05	3	3	2	6.12	10.56
Q04467	49.74	2	2	2	4.35	7.25	85.69	2	2	2	4.35	7.25
P02584							46.03	1	1	1	1.54	5.88
F1MR41	147.98	9	8	7	15.69	22.67	202.8	21	16	15	31.37	45.11
P00428	60.81	3	3	3	4.92	5.06	158.56	9	8	8	13.11	17.1
E1BP71	53.61	2	2	2	7.69	13.87						
Q1RMU4							33.59	1	1	1	3.45	7.05
E1BQ33	68.74	3	3	2	5.26	5.97	103.12	5	5	4	8.77	11.73
E1BQ33	42.32	1	1	1	6.67	11.43	124.64	10	6	6	40	45.71
P68002	123.63	11	9	3	17.31	20.79	172.83	28	19	7	36.54	32.58
A7YY28	38.56	1	1	1	6.25	9.3	58.81	2	2	2	12.5	18.6
E1BA29	137.6	16	9	1	25	31.17	155.7	17	11	1	30.56	33.02
P0C0S9	90.47	4	4	4	10.53	15.68						
A7MB45	119.4	44	5	5	33.33	25.11	166.77	42	15	15	100	38.1
O18778	85.51	2	2	2	5.88	9.22	61.02	1	1	1	2.94	4.1
G1K1G5	88.34	4	4	4	13.79	12.93	54.43	3	3	3	10.34	9.52
E1BGA1	83.45	4	3	3	18.75	17.62	108.91	7	6	6	37.5	40.95
P49410	38.56	1	1	1	2	3.06						
Q1JP75	69.21	10	3	1	11.54	20.77						
A7E3Q8	65.27	3	2	2	2.9	4.08	107.97	5	5	4	7.25	8.16
Q56JX6	55.94	1	1	1	2.33	4.75	56.99	1	1	1	2.33	3.56

Q2HJ60	38.71	1	1	1	0.97	1.56						
F1MWQ7							135	11	9	9	34.62	41.39
Q3SYV4	123.93	7	7	7	13.73	16.59	103.57	4	4	4	7.84	10.84
F1N003	86.52	6	3	3	12.5	14.75	128.6	6	4	4	16.67	22.54
F1MJK3	89.85	5	5	1	6.94	8.89	119.11	5	5	5	6.94	8.73
P35478							50.96	2	1	1	7.14	17.39
Q2KHZ9	90.43	2	2	2	5.13	9.09	84.1	3	3	2	7.69	11.44
E1BM93							34.6	1	1	1	7.14	6.04
A0JN77							40.1	1	1	1	1.96	2.33
Q3SZR8	38.56	1	1	1	2	3.06						
A7YY55	43.84	2	2	1	2.86	2.4						
F1MT45							29.24	1	1	1	8.33	11.88
Q2KIE6	47.44	2	2	2	4.08	4.34	117.65	4	4	4	8.16	10.96
F1MV74							57.13	1	1	1	3.03	3.76
O97680	45.88	2	2	2	14.29	12.73						
F1N2R1	155.98	8	7	7	13.73	18.86	166.83	8	7	7	13.73	17.3
P13184							46.03	1	1	1	2.33	8.54
Q3ZC83	28.29	1	1	1	2.44	3.04	93.43	3	3	3	7.32	11.6
Q3T0P5	65.84	10	3	1	12	21.09	103.27	16	5	3	20	31.25
F1MPT9	165.22	23	13	13	24.07	30.12	186.39	28	16	15	29.63	41.34
A6QLN7	145.48	14	10	10	16.95	21.92	216.11	23	17	17	28.81	37.75
F1MT65	62.64	2	1	1	8.33	12.38	98.87	5	4	4	33.33	42.86
F1MS05	48.58	1	1	1	16.67	18.75						
F1N405	37.1	1	1	1	7.14	12.05	36.44	1	1	1	7.14	12.05
F1MZF3							67.56	2	2	2	6.67	5.04
O77834							34.62	1	1	1	2.7	3.75
P0CH28	55.62	3	2	1	7.69	12.02						
F1MI18	67.76	3	3	3	4.76	8.44	126.2	6	6	6	9.52	12.57
Q3T160							30.19	1	1	1	0.8	1.19
F1MV90	113.93	10	9	9	9.78	14.33	183.94	11	11	11	11.96	16.57
E1B8H8	45.84	1	1	1	1	1.16	103.42	3	3	3	3	2.83
Q0VCK0							27.43	1	1	1	3.23	6.88
F1N2H3	133.93	11	8	8	25.81	42.41	164.29	14	12	12	38.71	55.8
Q3T0Z7	66.06	2	2	2	2	2.61						
F1N0Q7	43.84	2	2	1	2.33	1.91						
A5PKH3							73.67	2	2	2	5	13.61

E1BJ08	35.1	1	1	1	9.09	14.52						
Q9BGI1	33.83	1	1	1	2	5						
F1MX08	40.68	1	1	1	1.52	1.18	71.63	1	1	1	1.52	2.87
E1BB91							71.35	3	3	3	9.38	14.11
P0C7Q4	66.64	3	3	3	13.04	21.49	135.66	5	5	5	21.74	35.12
Q3T0X6							54.57	2	2	1	2.5	2.65
E1BPW0	95.45	5	4	4	13.33	11.93	160.55	14	11	11	36.67	29.36
F1MKG1	43.38	1	1	1	3.45	5.81	114.81	5	5	5	17.24	21.58
P07688	97.07	6	6	6	24	34.25	106.7	6	5	5	20	27.85
F1MLF8	133.63	14	13	13	20.31	25.98						
Q5E9J1	61.24	1	1	1	0.31	0.5	93.88	4	4	4	1.25	1.45
P08166	22.85	1	1	1	2.33	3.11						
F1MYI3	77.92	4	4	4	13.79	25.34	51.85	1	1	1	3.45	6.85
Q0VCK5	59.92	4	3	3	8.82	7.41	93.32	3	3	3	8.82	8.8
F1MF48	22.91	1	1	1	12.5	12.9						
G1K167	63.98	2	2	2	7.69	8.66	78.99	4	4	4	15.38	14.33
Q3MHM5	105.56	8	6	6	15	16.33	180.77	22	17	17	42.5	53.51
P00432	35.96	1	1	1	2.56	4.11						
F1MSV0	94.59	7	4	4	11.43	21.16	161.44	16	12	12	34.29	63.49
F1MKZ8							34.34	1	1	1	2.5	2.48
F1MLA4	22.92	1	1	1	1.03	0.85						
E1BIN4	78.18	3	3	3	6	8.59	119.54	5	4	4	8	10.98
Q3T0D0	61.6	3	3	3	7.89	10.66	144.62	7	7	7	18.42	32.38
O02751							163.56	11	10	1	27.03	26.07
Q2T9X2	200.03	80	25	25	43.1	42.31	256.69	102	37	37	63.79	59.96
F1N1X7	45.39	3	2	2	5.71	6.71	114.92	7	6	6	17.14	21.65
A6QQ11	140.66	10	9	9	10.23	15.96	158.7	13	12	1	13.64	21.41
Q3T0D7	57.95	1	1	1	3.7	5.31						
P48616	56.99	1	1	1	2.38	6.85						
F1MSQ7	57.01	3	3	3	5.66	6.68	94.29	3	3	3	5.66	8.84
P60661-2	26.37	1	1	1	1.18	2.36						
G1K1M7	59.35	2	2	2	3.17	5.35	60.5	1	1	1	1.59	2.4
P21793	127.65	10	8	8	13.33	17.44	201.17	30	24	24	40	55.52
A7MBI7	65.57	4	4	3	8.33	6.85						
A6H7H3	79.77	7	7	7	10.14	13.4	101.81	6	6	5	8.7	9.73
F1MXY8	28.04	1	1	1	4.76	5.56						

Q0VCN1	100.62	4	4	3	6.35	9.23	149.1	9	8	7	12.7	16.95
P68432	44.43	1	1	1	2.56	3.17	73.64	2	2	2	5.13	8.1
E1BD83	94.8	4	3	3	20	19.87	131.44	9	7	7	46.67	54.97
A7E3T7							37.86	1	1	1	1.56	2.52
E1B880	28.41	1	1	1	2.56	3.06	37.66	1	1	1	2.56	3.06
Q5E9R3	123.4	7	6	6	22.22	39.71	171.15	7	7	7	25.93	37.13
F1MSW1	35.73	1	1	1	2.56	3.85						
P34942	78.92	3	3	3	7.69	9.12	80.56	3	3	3	7.69	11.4
F1MHY9	36.12	1	1	1	2.63	2.68	30.65	1	1	1	2.63	2.68
Q3SZJ0							48.82	7	2	2	6.67	11.76
Q3T0T7	52.89	1	1	1	2.5	4.4						
P22779	70.12	2	2	2	4.44	6.58						
F2Z4G6	44.05	1	1	1	1.61	4.44	82.62	3	3	3	4.84	15.73
Q148N0							59.86	1	1	1	1.45	2.25
A6QQT4	128.53	8	8	8	11.43	14.35	149.29	6	6	6	8.57	9.76
P31039							68	1	1	1	2.38	6.41
Q17QK4							48.82	7	2	2	5.88	9.52
F1N2K1	106.05	7	6	6	11.32	15.86	202.07	16	15	15	28.3	33.19
Q58CW1	28.04	1	1	1	5	5.56	61.27	3	3	3	15	15.15
P08239	22.47	1	1	1	25	61.11	31.61	1	1	1	25	61.11
F1MPP7	61.03	3	3	3	5.56	7.81	56.49	2	2	2	3.7	4.1
F1MNG5	49	2	2	1	1.92	2.05	80.64	4	4	4	3.85	4.99
Q29437	119.46	8	8	6	15.38	16.7	158.94	9	9	7	17.31	18.14
E1BFN6	123.77	10	8	7	11.59	12.03	180.78	20	15	14	21.74	25.86
F1N4U6	103.72	10	7	7	13.21	13.69	174.67	15	13	13	24.53	27.57
E1BFI2							100.75	4	4	4	8.89	8.25
G1K258							37.16	1	1	1	4.76	6.15
Q3SZK3	22.85	1	1	1	2.33	3.11						
Q5E983	178.75	34	19	19	30.16	39.86	226.54	44	22	22	34.92	54.25
E1BD93	131.32	16	9	9	22.5	29.38	185.73	32	16	16	40	51.13
F1N7W0							128.5	7	5	2	9.43	6.96
Q6QRN6	142.86	13	8	6	14.81	23.06	204.47	23	16	15	29.63	38.18
F1MMR5	29.95	1	1	1	1.92	2.84	83.54	2	2	2	3.85	6.98
Q2KJC6							80.89	2	2	2	2.35	4.23
F1N5M2	177.17	48	16	16	50	46.05	208.96	48	19	19	59.38	53.26
P79134	49.67	1	1	1	3.12	3.19	36.38	1	1	1	3.12	3.19

A2VDZ9							93.21	2	2	2	7.69	14.67
P19803	95.67	5	4	4	6.67	8.01	175.44	13	11	11	18.33	21.15
P04272	66.01	2	2	2	6.9	6.36	103.94	3	3	3	10.34	10.91
P25708							94.58	4	4	4	16	16.32
A5PK39	33.93	1	1	1	2.33	1.93						
Q0VCX2	70.12	2	2	2	4.88	6.57	94.41	3	3	3	7.32	8.84
Q3B7M9	86.97	4	4	4	6.9	12.24						
P84466	186.52	24	12	12	12.77	20.36	239.75	51	28	27	29.79	47.25
P62935							33.68	1	1	1	3.03	4.94
Q0V8D0	22.75	1	1	1	3.45	3.92	26.18	1	1	1	3.45	3.92
G1K146	65.37	2	2	2	3.77	7.37	146.69	7	7	7	13.21	22.12
G1K257	51.57	1	1	1	1.89	1.72	58.81	2	2	2	3.77	4.31
F1MR63							26.59	1	1	1	0.81	0.8
F1ME58	159.92	17	12	4	13.79	23.51	195.78	24	19	17	21.84	37.71
P79102	57.95	2	2	1	1.85	2.85	99.79	7	4	1	3.7	4.98
E1BEA7	58.47	1	1	1	1.47	2.05	100.02	3	3	3	4.41	5.33
F1MF46	28.66	1	1	1	4.76	10.98	125.91	7	5	5	23.81	37.2
Q1LZI1	113.53	9	6	3	16.22	19.24	173.77	20	12	9	32.43	43.53
E1BEG2							61.05	2	2	2	8.7	14.35
P00426	161	20	12	12	35.29	43.95	198.89	25	15	9	44.12	57.52
Q0VCU1	41.99	1	1	1	2.63	2.4	45.57	1	1	1	2.63	2.4
A5D9E8	96.42	3	3	3	7.69	14.22	148.65	17	11	11	28.21	35.18
F1MNY7							86.59	3	3	3	5.17	5.84
E1BE42	61.57	3	3	3	5.56	5.33	129.97	8	7	7	12.96	14.4
F1N7K8	48.74	1	1	1	5.88	6.43	69.99	2	2	2	11.76	18.13
P02676	78.18	3	3	3	6.12	8.59	119.54	5	4	4	8.16	10.98
Q3T106	32.27	1	1	1	1.89	1.72						
E1BKY9	38.95	1	1	1	2.13	3.96	82.34	2	2	1	4.26	6.33
Q9TTK6-2	38.38	1	1	1	5.56	5.92	85.48	3	3	3	16.67	32.89
Q3SZZ9	113.93	10	9	9	9.78	14.4	183.94	11	11	11	11.96	16.65
Q7YS70	48.49	2	2	2	5.41	8.36						
F1MTV7	106.5	7	7	4	6.6	9.53	161.92	10	8	2	7.55	11.31
Q05443							37.16	1	1	1	3.12	7.43
P12378	168.47	23	11	11	21.15	29.24	222.25	30	19	19	36.54	42.27
P68103	79.68	3	2	2	3.39	6.2	110.1	5	5	4	8.47	12.39
Q9N0V4							46.03	1	1	1	1.56	5.96

F1MIN1	105.52	4	4	4	6.67	10.47	99.52	5	5	5	8.33	11.58
Q32LP2	137.9	9	9	7	15	12.77						
E1BC10	110.19	5	5	5	11.63	13.79	99.33	4	4	4	9.3	10.11
E1B7U2							41.03	1	1	1	2.7	4.02
P62157	106.05	7	6	6	11.32	15.82	202.07	16	15	15	28.3	33.12
Q3T0F4	34.14	1	1	1	2.94	2.34	47.17	2	2	2	5.88	4.97
F1MP69	144.5	11	10	10	16.39	27.94	196.52	16	15	15	24.59	41.09
F1MBX4	122.19	6	6	1	10	12.99	143.56	9	8	2	13.33	20.56
Q3SZR3	130.13	20	7	1	24.14	32.57	174.19	48	13	2	44.83	60.09
Q1LZF6	135.03	11	8	7	23.53	32.89	154.18	7	7	6	20.59	29.53
P22292							51.04	2	2	2	2.02	2.92
F1MES1							177.68	14	12	8	22.22	17.96
Q3T0I5	141.48	11	7	5	22.58	32.74	156.39	12	7	6	22.58	35.4
F1MWT1	132.58	5	4	4	28.57	36.91	127.15	8	5	5	35.71	45.64
F1N789	52.51	2	2	2	7.14	14.55	55.12	2	2	2	7.14	10.91
P45879							41.51	1	1	1	1.03	1.13
Q58DQ3							61.38	2	2	2	4.55	7.94
E1BL60	23.93	1	1	1	4	3.47						
F1N618	118.83	7	7	6	9.59	8.35	109.41	8	8	8	10.96	12.45
Q2HJH3	82.2	2	2	2	5.71	7.01	53.79	2	2	2	5.71	5.73
G1K1S1	25.06	1	1	1	1.47	1.88	48.96	1	1	1	1.47	1.88
F1MX44	46.47	1	1	1	3.85	7.24						
O18963	65.64	2	2	2	3.57	4.25	113.9	6	6	6	10.71	12.93
P30404	58.25	2	2	2	1.4	1.94						
G1K1Q5	135.03	11	8	7	25	34.63	154.18	7	7	6	21.88	31.1
Q2KJI2	74.66	4	3	3	4.23	11.85	94.31	5	5	5	7.04	19.51
E1BKV2	28.53	1	1	1	1.96	2.79						
F6QRM6	110.13	7	6	3	1.86	4.26	138.57	7	6	2	1.86	4.06
F1N1N0	23.32	1	1	1	3.23	2.54	59.46	4	4	4	12.9	11.11
Q95M12							77.04	2	2	2	3.33	4.07
Q59A32	98.11	20	7	1	20.59	25.23						
Q9TTE1	157.84	25	12	11	20	24.24	175	25	16	14	26.67	35.76
E1BMZ7	55.62	3	2	1	7.14	11.96						
A7E3P5	56.77	1	1	1	1.72	1.98	60.61	2	2	2	3.45	5.05
F1N0R3	39.11	1	1	1	1.61	1.28	39.25	2	2	2	3.23	2.27
F1N0I0	32.73	1	1	1	2.63	7.88						

Q5E9P9	66.06	2	2	2	5.26	9.94						
F1N1J3	90.43	2	2	2	4.65	8.78	84.1	3	3	2	6.98	11.05
G1K165							45.36	2	2	2	4.76	3.46
F1MY29	38.71	1	1	1	0.97	1.58						
G1K173	86.02	4	4	4	9.3	10.95	108.2	5	5	4	11.63	12.41
P49951							26.53	1	1	1	4.17	5.21
P00921	63.39	3	3	3	13.04	11.49	99.73	4	4	4	17.39	16.22
A7MAZ5							51.04	2	2	2	2.04	3.05
P51176							37.86	1	1	1	1.56	2.52
P42899	117.37	9	7	7	12.96	19.42	184.05	19	13	12	24.07	35.95
Q3SZV0	40.9	1	1	1	3.03	6.36	59.37	1	1	1	3.03	6.36
P63258	60.53	2	2	1	6.06	6.73	55.56	2	2	2	6.06	8.75
Q3SZD7							48.68	1	1	1	3.03	3.51
A6QQT9	57.25	3	2	2	6.45	7.07	121.55	6	6	6	19.35	24.73
Q2KJH9							137.64	9	9	9	5.26	6.45
Q3T001	25.94	1	1	1	4	3.46	40.29	1	1	1	4	3.46
F1MN23	97.65	4	4	4	7.02	9.5	119.67	6	4	4	7.02	14.48
G1K1L3	23.46	1	1	1	1.37	1.46						
P05786	64.09	2	2	2	15.38	22.61	93.05	2	2	2	15.38	21.74
P03929							34.66	1	1	1	4.17	7.45
E1BP00	119.4	44	5	5	62.5	46.4						
P52193	194.61	35	15	2	40.54	42.93						
Q3B7M2	150.74	20	12	12	32.43	56.32	154.24	20	13	10	35.14	65.34
G1K184							77.04	2	2	2	3.45	4.11
Q0P5K3	140.56	12	10	8	20	17.41	191.42	20	14	13	28	33.4
E1B748	133.97	11	7	5	20.59	26.18	163.55	11	8	6	23.53	29.97
E1BHR2							72.74	1	1	1	2.56	4.62
F1N6C0	47.84	1	1	1	5	11.19	128.87	7	5	5	25	37.76
Q861S4	146.38	14	9	7	14.06	17.57	205.27	31	18	14	28.12	37.24
Q3ZBH0							50.25	1	1	1	14.29	19.7
Q3T076							30.19	1	1	1	1.05	1.51
Q3SZJ7	75.08	4	4	1	9.3	7.91	115.66	15	10	1	23.26	33.57
Q28851	84.26	5	4	4	10.81	18.51	115.03	7	6	6	16.22	23.38
G1K1C9	41.99	1	1	1	2.63	2.4	45.57	1	1	1	2.63	2.4
P20004	49.28	2	2	2	10.53	19.74						
F1MN08							53.71	2	2	1	1.59	1.5

P00586	49.28	2	2	2	11.76	19.74						
Q3SZT2	132.58	5	4	4	26.67	36.67						
E1BGN2	54.04	1	1	1	2.63	9.38						
F1MBI9	56.54	1	1	1	1.54	4.11						
Q2YDL5							27.43	1	1	1	3.7	7.01
Q2TBR0	50	2	2	2	6.9	4.18						
Q3T145	48.78	1	1	1	5.88	14.77	42.53	1	1	1	5.88	12.5
A1A4M0	35.73	1	1	1	1.41	1.73	82.04	2	2	2	2.82	3.81
P11064	111.08	6	6	6	7.06	8.46	117.56	6	6	6	7.06	10.13
F1MY39	28.66	1	1	1	5.56	11.69	125.91	7	5	5	27.78	39.61
P04896-2	150.65	11	7	7	20.59	33.33	155.91	14	12	12	35.29	44.44
F1N2W0	33.35	1	1	1	4.17	8.66						
Q2KIG6							30.39	1	1	1	3.85	2.53
E1BK24	48.74	1	1	1	7.14	6.75						
Q32KX0	67.56	2	2	2	7.69	8.87						
E1BFP2	158.63	14	13	13	22.81	32.65	186.82	12	12	12	21.05	25.97
Q32L10	51.45	3	2	2	4.76	7.49	131.51	6	6	6	14.29	22.16
F1MJJ8	37.62	1	1	1	7.69	14.74	38.46	1	1	1	7.69	11.58
F1MMJ0	29.2	1	1	1	4.76	6.96						
F1MW68							93.1	2	2	1	6.45	8.9
Q9BGI3	22.85	1	1	1	1.85	2.89	35.06	1	1	1	1.85	2.89
Q3T0F5	147.32	11	10	10	27.03	37.08	200.06	14	11	11	29.73	43.77
Q8WMV1							51.51	2	2	2	10	11.45
F1N1Z7							26.59	1	1	1	6.25	4.38
F1MUT3	41.85	2	2	2	11.11	15.69	91	5	5	5	27.78	39.71
C4T8B4	37.1	1	1	1	7.14	9.62	36.44	1	1	1	7.14	9.62
Q2HJ49							42.42	1	1	1	7.69	6.88
Q3ZBI7							51.04	2	2	2	2.02	2.92
Q3T0U3							49.38	2	2	2	4.76	3.63
F1MZW0	40.33	1	1	1	3.7	3.29	60.17	1	1	1	3.7	3.29
Q0V8F2							74.63	2	2	2	10	14.07
E1BJ86	33.12	1	1	1	3.7	4.83						
G1K1H4	58.63	1	1	1	3.23	3.11	58.11	1	1	1	3.23	3.11
E1BMH4	55.61	2	2	2	2.9	4.33	108.44	5	5	4	7.25	9.63
A5PJQ6	35.8	1	1	1	0.68	0.9						
Q29RZ0							23.6	1	1	1	5.26	4.02

F1MI11	198.7	55	24	24	29.27	34.27						
G1K1Z1	25.09	1	1	1	0.99	2.95	51.04	2	2	2	1.98	2.95
A7YY49	25.82	1	1	1	11.11	25.86						
F1MZC0	39.94	1	1	1	3.85	6.93	56.92	2	2	2	7.69	12.41
E1BHA5							51.04	2	2	2	1.98	2.95
Q3SWX7	32.54	1	1	1	7.69	8.27	64.88	1	1	1	7.69	11.28
P81425							48.82	7	2	2	6.67	11.76
Q148D3	161.12	11	9	9	23.08	34.67						
F1MLG7	178.16	22	17	15	21.25	27.94	217.89	27	21	21	26.25	36.24
F1MXU5	30.09	1	1	1	4	3.59	82.59	3	3	3	12	13.45
Q3SYU2	164.05	11	7	7	15.56	24.17	215.46	16	14	14	31.11	41.71
F1MK89	92.49	4	4	3	9.09	8.9	144.49	10	9	9	20.45	24.78
Q17QF0	58.79	2	2	2	5.71	13.04	64.8	2	2	2	5.71	13.77
Q32LL2							26.09	1	1	1	5	3.72
Q1RMR8	73.46	1	1	1	4	7.52	100.83	4	3	2	12	15.04
Q29465	26.17	1	1	1	3.7	6.21						
A6QPY0	59.76	2	2	2	4.08	7.74	83.05	3	3	2	6.12	10.53
Q17QG8							41.2	1	1	1	1.41	1.57
Q32KM0	113.67	5	5	5	10.2	18.04	158.57	10	10	10	20.41	31.96
A1A4K3	72.71	4	2	2	4.08	3.7	80.14	4	4	4	8.16	9.92
Q17QM6							58.36	1	1	1	2.33	4.87
Q29RK4	99.62	7	6	6	5.71	8.62	145.23	11	10	10	9.52	12.94
P41361	151.47	19	9	8	26.47	29.78	194.01	32	17	16	50	52.53
O46375							80.14	4	4	4	8	9.92
Q1JPG7							63.44	1	1	1	2.13	4.21
E1BKZ1	45.84	1	1	1	3.33	3.69	103.42	3	3	3	10	8.97
A4IFA7							49.37	2	2	2	2.63	3.6
E1BC79	58.71	3	3	3	7.89	6.61	75.27	3	3	3	7.89	7.06
Q3MHG7	69.21	10	3	1	11.54	18.88	118.01	13	3	1	11.54	24.48
Q08D83-2							27.77	1	1	1	4	3.15
F1MRG0	25.29	1	1	1	1.05	0.88						
F1MDA1	39.89	1	1	1	2.7	4.24	29.1	1	1	1	2.7	4.24
Q56JV9							30.39	1	1	1	3.7	2.45
F1N5J9							39.05	1	1	1	1.82	2.37
F1MTJ9	78.93	4	4	4	26.67	36.05	120.42	7	5	5	33.33	46.94
P02672	119.96	5	5	5	9.62	13.69	119.81	5	4	3	7.69	9.32

A7E3S8	66.05	2	2	2	3.45	5.01	64.48	2	2	2	3.45	3.85
Q8SQ21	27.86	1	1	1	3.33	5.49						
P04695	99.27	7	6	6	12.24	20	116.78	7	6	6	12.24	19.46
E1BI98	27.82	1	1	1	2.44	3.62						
E1BHJ6	26.67	1	1	1	4.55	4.64						
A6QQ83	53.77	3	2	2	8.33	15.93	96.23	4	4	4	16.67	19.47
Q5KR47	117.33	8	8	8	7.34	10.29	165.33	11	11	11	10.09	14.54
Q9MZ13	56.99	1	1	1	1.92	6.44	87.49	2	2	1	3.85	9.85
P61603	59.54	3	3	3	10.71	11.04						
P13619	58.47	1	1	1	1.47	2.05	100.02	3	3	3	4.41	5.33
P15497	42.59	1	1	1	1.39	1.46	33.58	1	1	1	1.39	1.46
F1MMK8	36.69	1	1	1	1.82	2.71	91.64	3	3	3	5.45	10.03
F1N7W6	89.57	3	3	3	18.75	31.9	77.08	2	2	2	12.5	21.47
Q3ZC33	22.85	1	1	1	2.27	3.14						
P02070	67.59	4	4	4	3.57	4.58	61.08	1	1	1	0.89	0.88
P81623	32.73	1	1	1	5.88	16.49						
G1K1X0	34.91	1	1	1	5	6.45	57.92	2	2	2	10	13.55
Q6B855	35.1	1	1	1	1.89	3.17						
E1BJQ1	85.53	5	3	2	9.38	12.01	80.83	2	2	1	6.25	8.13
P83095	118.52	14	6	6	37.5	50	133.03	14	7	7	43.75	59.8
Q2KIT0	35.8	1	1	1	3.03	3.12	35.77	1	1	1	3.03	5.86
F1MJJ5	119.23	5	5	5	12.82	21.51	151.77	7	7	7	17.95	25.66
F1MN00							56.55	2	2	2	2.41	2.89
Q2TBT3	33.93	1	1	1	2.5	1.97	32.4	1	1	1	2.5	1.97
Q2KJJ2							84.55	3	3	3	6.38	7.5
F1MUV3	188.88	76	16	16	88.89	66.9	222.64	106	22	15	122.22	82.76
Q5E971	51.06	2	2	2	5.71	8.53	81.66	3	3	3	8.57	11.24
F1MLB8	91.58	4	4	4	8.7	8.96	126.77	6	6	6	13.04	14.38
F1MQV8	102.86	5	5	5	7.35	11.24						
P00727-2							91.48	4	3	3	2.83	3.43
F1MIM5							40.13	1	1	1	1.41	1.8
F1N2I5							48.91	1	1	1	5.26	7.85
Q5E9H9	141.98	19	7	7	17.95	21.58						
E1B983	75.13	2	2	2	3.64	5.06	160.85	9	8	7	14.55	20.23
P60712	60.53	2	2	1	6.06	6.76	55.56	2	2	2	6.06	8.78
F1MMP5	148.26	19	13	5	27.66	31.4	219.82	37	24	6	51.06	45.2

F1N2V6	48.74	1	1	1	10	8.87						
F2Z4J9	45.9	1	1	1	3.45	9.59						
Q3SZK8	204.26	35	18	1	26.09	36.71	211.69	30	20	1	28.99	39.42
Q5KR47-2	65.27	3	2	2	2.9	4.08	107.97	5	5	4	7.25	8.16
Q58DC0	124.13	8	7	7	13.46	16.27	129.46	6	6	6	11.54	14.66
Q3ZCD7							28.65	1	1	1	2.08	2.43
Q2KIG0	88.27	2	2	2	6.9	14.69	133.06	7	7	7	24.14	32.65
P41976							65.77	2	2	2	5.56	8.82
F1MRY9	28.55	1	1	1	2.5	7.05	40.03	1	1	1	2.5	8.33
Q32PB8	194.61	35	15	2	40.54	42.93						
A5PJC5	62.17	2	2	2	2	2.87	70.85	3	3	3	2.98	
F1MCD3	98.95	4	4	4	17.39	22.5	85.46	3	3	3	13.04	17.5
E1BAM7							39.5	1	1	1	6.25	7.79
P01966							37.98	1	1	1	2.22	2.99
Q5E9I6	35.1	1	1	1	2.13	3.63	105.2	5	5	1	10.64	16.94
Q76I82							48.68	1	1	1	3.03	3.51
F1MZP8	60.82	2	2	2	5.56	6.82	82.92	4	4	4	11.11	12.34
A6QP36	133.13	5	5	5	7.94	12.16	158.22	10	10	10	15.87	21.23
F1MFG7	68.44	4	2	2	9.52	13.06	130.6	4	3	3	14.29	19.37
F1N2Q0							206.84	26	22	1	16.18	16.65
P07857	40.87	1	1	1	7.69	14.46	43.4	1	1	1	7.69	14.46
Q32KL2							71.76	2	2	2	3.39	4.41
F1MUX4							40.51	1	1	1	1.72	2.26
E1BBB3							50.93	1	1	1	3.12	7.59
E1BAR9	182.8	57	20	20	142.86	61.97	206.88	68	17	17	121.43	73.94
Q2TBW2							81.52	3	3	3	13.64	16.02
Q3T0S5	32.31	1	1	1	4.55	6.92	58.67	3	3	3	13.64	20
Q3SZ52	124.36	18	12	11	32.43	30.11	191.37	38	22	19	59.46	52.21
Q3SYR7	44.21	1	1	1	2.44	5.85	85.58	4	4	4	9.76	15.04
A6H797	68.69	2	2	2	5.56	7.9	98.61	6	6	6	16.67	20.96
E1BK31							60.74	3	3	2	1.64	1.14
Q08DP0	145.48	14	10	10	16.95	21.92	216.11	23	17	17	28.81	37.75
F1N5D3							52.66	1	1	1	3.57	3.8
P00130	102.86	5	5	5	7.35	10.8	118.12	7	7	7	10.29	12.35
P02453	167.82	24	13	2	22.41	28.36						
F1MR58	100.73	5	5	3	9.09	9.66	159.14	17	11	1	20	13.83

A5PKM0							37.16	1	1	1	3.7	5.07
A0JND6	141.98	19	7	7	17.95	21.7	204.34	23	11	11	28.21	34.89
P82708							34.72	1	1	1	5.26	6.8
F1MLZ3	42.27	1	1	1	3.03	5.21						
E1B7L1	26.28	1	1	1	3.12	4.59						
P12234-2							56.23	1	1	1	3.23	2.88
Q56K03	127.65	10	8	8	13.11	17.44	201.17	30	24	24	39.34	55.52
F1MET3							70.89	2	2	2	5.41	4.21
F1MAV0							23.73	1	1	1	10	26.56
G1K1M0	72.33	2	2	1	1.67	1.57						
Q3T172	65.08	3	3	3	6.52	8.24	70.01	4	3	3	6.52	8.24
Q3T0V2	131.5	20	7	1	24.14	31	181.69	48	13	2	44.83	57.21
F1N7D2	58.47	1	1	1	1.56	2.2	100.02	3	3	3	4.69	5.72
F1MMR6							52.31	3	2	2	11.11	13.33
F1MXY2							102.37	2	2	2	4.88	6.15
E1BQ29	86.9	4	4	2	12.9	18.52						
F1N6K1	65.08	3	3	3	7.32	8.59	70.01	4	3	3	7.32	8.59
A1A4L7							37.16	1	1	1	3.03	7.43
Q3ZBD1							86.82	2	2	2	2.94	3.08
Q08E20	79.68	3	2	2	3.39	6.17						
F1MSY5	28.66	1	1	1	6.67	11.32						
P34955	48.41	1	1	1	2.86	2.02	166.8	9	8	8	22.86	25.36
Q5EA20	96.42	3	3	3	8.33	15.82						
Q2HJ86	32.27	1	1	1	1.89	1.72						
A5PJE3	81.72	5	4	4	10.81	10.92	115.93	8	7	7	18.92	19.9
Q1LZ95	36.37	1	1	1	5.26	6.45						
Q28852							32.02	1	1	1	7.69	8.82
F1MCW4							70.89	2	2	2	5.41	4.37
E1BB71	131.42	13	8	6	26.67	43.58	162.66	12	9	7	30	49.54
Q148C9	36.69	1	1	1	4.76	6.36						
Q58DM8	57.25	3	2	2	6.67	7.09	121.55	6	6	6	20	24.82
Q3MHL7	56.88	2	2	2	5.26	6.73	82.43	2	2	2	5.26	7.74
P10575	41.99	1	1	1	2.63	2.4	45.57	1	1	1	2.63	2.4
Q9TRY0	122.6	10	7	7	14.89	22.65	163.26	23	17	17	36.17	45.29
P21856	105.88	8	6	6	15	18.14						
A6QL68	42.59	1	1	1	1.41	1.46	33.58	1	1	1	1.41	1.46

Q2TBX5							25.69	1	1	1	3.57	3.96
Q8MJG1	49.66	2	2	2	16.67	31.07						
Q64L89	32.73	1	1	1	2.38	8.56	72.32	2	2	2	4.76	10.7
Q3T165	28.55	1	1	1	2.56	7.05	40.03	1	1	1	2.56	8.33
F1N049	56.76	1	1	1	4.35	6.28	110.79	4	4	4	17.39	26.18
Q5EA45	177.17	48	16	16	50	46.21	208.96	48	19	19	59.38	53.45
P18902							57.79	1	1	1	1.43	3.95
E1BGU7	22.91	1	1	1	9.09	11.32						
F1MB84							48.97	2	2	2	3.08	3.92
Q27966							123.99	5	5	1	10	8.72
O19094	41.55	1	1	1	2.17	5.87	67.57	2	2	2	4.35	6.74
A6H769							34.6	1	1	1	7.69	6.4
Q3ZBD3							30.19	1	1	1	0.97	1.51
F1MUP4	36.37	1	1	1	5	6.45						
F1N3K8	125.39	7	7	7	24.14	31.25	123.96	7	7	7	24.14	33.09
F1MFZ8							39.93	1	1	1	2.33	2.08
F1MGY7	26.61	1	1	1	2.08	2.26						
A6QR14							93.91	5	4	4	16	21.86
F1N5P4	56.88	2	2	2	5.41	6.76	82.43	2	2	2	5.41	7.77
F1MAZ7	69.05	4	3	3	8.33	10.79	133.94	6	5	5	13.89	19.83
A6H768							51.51	1	1	1	0.67	1.03
Q2HJ97	43.1	1	1	1	1.52	1.31	125.53	7	6	6	9.09	14.38
E1BKU3	36.24	1	1	1	2.86	11.34						
Q2YDE4	47.84	1	1	1	7.69	15.38	128.87	7	5	5	38.46	51.92
E1BEB5	65.72	3	3	3	6.12	6.02	129.37	7	6	6	12.24	13.15
E1BMW9	45.9	1	1	1	3.23	9.33						
P00376	53.27	2	2	2	4.35	3.11	65.46	4	4	4	8.7	6.22
Q2HJ33	97.03	5	5	5	6.58	11.58	122.55	7	5	5	6.58	7.18
A5PK51	37.04	1	1	1	1.75	1.74						
E1BHL1	35.73	1	1	1	2.5	3.14						
Q2KIB0							104.91	3	3	1	7.32	11.73
P61286	124.99	6	6	5	17.14	20.15	118.61	5	5	5	14.29	17.35
Q3T094	116.91	6	5	5	12.2	17.39	164.89	8	8	8	19.51	32.44
Q2KJB7	43.38	1	1	1	5.26	9.86						
E1B8B0	49.18	2	2	2	6.9	10.98	47.21	1	1	1	3.45	4.88
F1ML89	23.93	1	1	1	4	3.43						

G1K239							33.69	1	1	1	2.44	2.97
Q5E9C2							46.46	1	1	1	4.17	7.49
A5D7E1	32.54	1	1	1	1.92	2.78	64.88	1	1	1	1.92	3.79
F1MWC2							66.18	2	2	2	4	4.46
F1MZG9	68.44	4	2	2	10.53	13						
Q9GK13	78.92	4	4	4	13.33	15.29	78.59	2	2	2	6.67	8.28
P31404							45.99	1	1	1	1.3	1.73
A4FV90	37.61	2	2	2	8.7	6.69	112.88	7	6	6	26.09	32.28
F1MWR3	167.53	15	14	14	19.44	23.25	205.39	20	19	19	26.39	33.28
P38409							73.67	2	2	2	5.88	15.69
Q2KIF2	294.8	173	77	75	50	49.73	325.6	251	102	99	66.23	58.7
Q3SZX4							126.79	10	8	1	9.64	15.05
Q3ZBT8							56.71	1	1	1	14.29	10.62
F1MCM8							59.86	1	1	1	1.43	2.24
F1MMA7	85.26	6	5	3	12.2	15.79	107.15	6	5	3	12.2	13.57
F1MVP1							68.17	2	2	2	5	3.72
Q00361							160.54	13	12	1	13.79	21.73
E1BH17	28.26	1	1	1	1.52	1.94						
F1MDM8	153.99	12	11	11	12.36	22	184.2	18	16	16	17.98	29.82
Q0II68	145.52	9	6	6	16.67	28.53	191.76	15	10	10	27.78	46.85
F1MDR3	38.56	1	1	1	1.96	3.06						
Q3ZCK9	31.71	1	1	1	3.45	2.89						
E1BG13	125.48	9	6	6	20.69	23.46	203	28	14	14	48.28	61.15
A6QLY4	38.85	1	1	1	5.88	5.22	61.78	2	2	2	11.76	10.87
E1B8G4	32.49	1	1	1	2.94	4.32	76.22	3	3	3	8.82	9.97
A4FUD0	113.74	4	4	3	12.5	12.96	112.83	4	4	3	12.5	10.99
F1MB60	63.34	2	2	2	20	22.64						
G1K1N2							75.99	2	2	2	13.33	32.39
Q3T067	130.13	20	7	1	26.92	33.33						
Q5EA79	65.57	4	4	3	12.12	10.42						
P08166-2							33.59	1	1	1	3.45	7.05
F1MHC8	31.85	1	1	1	2.63	5.36						
F1MNA6	45.34	1	1	1	1.75	3.34	102.87	3	3	3	5.26	8.35
P13621	43.02	2	2	2	5.41	6.9						
Q5I597	39.08	1	1	1	1.54	4.76						
Q58DT1	68.59	2	2	2	7.41	9.06						

E1BED6							50.93	1	1	1	3.45	7.59
F1MCB3	126.15	6	6	6	6.19	8.88	146.05	11	11	10	11.34	13.9
F1MCB3							80.31	2	2	2	7.41	20.87
P12234							52.66	1	1	1	3.57	3.76
A6H7A2	24.61	1	1	1	2.33	1.86	63.6	3	3	3	6.98	7.46
F1MKW5	123.47	6	5	5	16.13	23.39	131.19	6	6	6	19.35	23.68
F1MKS7	94.59	7	4	4	11.76	21.79	161.44	16	12	12	35.29	65.38
E1BB28	139.15	12	8	3	14.04	14.37						
F1N1M7	126.28	8	7	7	11.67	18.13	90.47	3	3	3	5	6.28
P55859	108.98	5	4	4	13.33	17.37	134.95	6	6	6	20	39.44
P31800	96.84	4	3	3	6.52	8.85	142	12	10	10	21.74	31.45
A4FV92	86.02	4	4	4	10	12.13	108.2	5	5	4	12.5	13.75
Q0P5F9	44.05	1	1	1	1.59	4.44	82.62	3	3	3	4.76	15.73
A6QLG5	28.55	1	1	1	2.5	7.05	40.03	1	1	1	2.5	8.33
P84080	65.57	4	4	3	8.89	9.24						
Q32LA7	36.09	2	2	2	9.52	7.85	40.18	3	2	2	9.52	7.85
A6H7D3	65.08	3	3	3	7.32	8.56	70.01	4	3	3	7.32	8.56
Q2KJ64							34.35	1	1	1	2.7	2.48
P00727	48.78	1	1	1	5.88	13.83	42.53	1	1	1	5.88	11.7
cont	39.22	1	1	1	2.33	2.12						
P56965	100.39	4	4	4	4.35	6.64	73.06	3	3	3	3.26	3.05
Q3T0X8	167.53	15	14	14	19.44	23.25						
P50448	97.91	4	4	4	15.38	26.64	160.64	13	10	10	38.46	46.37
F1MS49	91.58	4	4	4	8.7	8.96	126.77	6	6	6	13.04	14.38
P05689							37.29	1	1	1	1.61	1.87
Q27966-3	142.98	13	8	8	15.69	19.71						
F1MW47	66.55	3	3	3	6.67	12.89	89.82	7	7	7	15.56	31.96
Q3ZCK3							81.52	3	3	3	14.29	16.02
P13214	65.84	10	3	1	12.5	21.09	103.27	16	5	3	20.83	31.25
Q5EA45-2	141.44	14	9	8	16.36	26.92	180.67	25	17	15	30.91	43.44
F1MHB8	169.82	13	10	10	29.41	41.3	178.67	16	9	9	26.47	33.85
F1MDJ6	124.13	8	7	7	12.5	15.61	129.46	6	6	6	10.71	14.07
Q1LZ83	117.41	10	7	5	10.61	10.4						
P55156	98.95	4	4	4	12.12	15.79	85.46	3	3	3	9.09	12.28
Q0V8B6	22.44	1	1	1	1.49	1.54						
F1MCC1							49.38	2	2	2	4.88	3.63

Q3T063							43.28	1	1	1	2.33	2.53
P19483	40.33	1	1	1	3.7	3.29	60.17	1	1	1	3.7	3.29
Q3T0R1							51.51	1	1	1	0.67	1.05
Q2KJF7							101.59	10	6	1	11.76	9.43
Q3SZB4							23.98	1	1	1	3.33	3.9
A6QPD5	166.35	24	12	12	25.53	41.69	219.18	30	19	19	40.43	59.25
Q58DK5	26.61	1	1	1	2.44	2.93						
Q5E9F5	103.54	5	5	5	19.23	18.73	99.52	4	3	3	11.54	10.03
P11966	93.16	2	2	2	2.15	2.75	141.13	9	9	9	9.68	12.68
E1BHJ0							71.35	3	3	3	8.33	12.15
E1BK74	117.33	8	8	8	7.34	10.37						
Q6B4J2	88.88	4	4	4	10	10.3	109.76	6	5	5	12.5	12.08
Q3ZBG0	137.9	9	9	7	14.75	12.77						
G1K1U7	103.54	5	5	5	19.23	18.73	99.52	4	3	3	11.54	10.03
Q3ZBE9	65.57	4	4	3	8.51	6.75						
A1A4R1							211.84	29	20	1	28.99	39.42
Q9BGI1-2	48.17	2	2	2	5.56	11.84	75.99	3	3	3	8.33	17.11
F1MRV5	62.23	2	2	2	5	4.97	56.43	3	3	3	7.5	6.5
P61223	160.66	11	9	9	17.31	31.59	184.59	19	13	3	25	40.86
A6QPZ0	121	8	8	6	14.55	15.69	164.92	18	13	9	23.64	20.04
Q29RK2	133.84	10	7	7	21.21	23.1	161.49	12	11	11	33.33	36.47
P00423							61.05	2	2	2	8.7	15.08
Q3ZC84	25.32	1	1	1	2.94	2.23						
Q3ZBF6	42.32	1	1	1	6.67	11.43	124.64	10	6	6	40	45.71
Q3T0E0							56.43	3	3	3	5.36	6.6
F1MU19							67.98	3	2	2	11.76	11.04
P52505							38.47	1	1	1	2.5	4.44
F1MDW8	125.39	7	7	7	23.33	30.91	123.96	7	7	7	23.33	32.73
F1MHF7	112.22	6	6	6	17.14	22.19	145.6	10	8	8	22.86	24.72
P80457	69.21	10	3	1	11.54	20.93						
Q76LV1	97.07	6	6	6	31.58	46.3						
F1MHK6							30.19	1	1	1	0.99	1.51
P80177	63.94	3	2	2	8	12.5						
F1MCS9							29.24	1	1	1	8.33	11.88
F1MUN0	155	17	16	16	12.9	18	205.47	21	20	20	16.13	21.99
F1MM57							83.93	3	3	3	11.11	20.12

F1MW61	45.34	1	1	1	1.85	3.37	102.87	3	3	3	5.56	8.42
F1MGW0							208	38	24	1	52.17	55.58
P62739	69.57	2	2	2	25	20.59						
E1B773							37.9	1	1	1	3.12	6.5
G1K1Z3	117.41	10	7	5	10.61	10.4						
Q3T025	34.7	1	1	1	5.88	6.41	83.77	4	3	3	17.65	21.15
P32007	38.92	1	1	1	2.63	8.06	42.81	1	1	1	2.63	8.06
F1MNZ2	30.38	2	1	1	8.33	7.32	50.49	2	2	2	16.67	15.45
P62894	35.8	1	1	1	0.68	0.9						
F1ME86	100.59	3	3	1	2.83	5.11						
Q9BGI2	39.08	1	1	1	1.54	4.55						
F1ML12	41.63	1	1	1	12.5	18.26	94.32	3	3	3	37.5	35.65
F1MM37	48.53	2	2	2	8.7	15.83	87.74	7	3	3	13.04	30.83
P39872	54.04	1	1	1	2.5	9.26						
F1MJE3	69.69	3	3	1	0.94	1.23	128.8	10	9	4	2.83	4.45
F1N690							27.33	1	1	1	2.22	2.39
F1MQP2	72.33	2	2	1	1.65	1.63						
Q8SPU8							155.17	22	11	1	29.73	42.44
Q32LG3	22.91	1	1	1	7.69	11.43						

Protein accession #: the accession number of the protein in the database

Score: PEAKS protein score

 # Spec: the number of spectrum on which this protein has been detected

 # Pep: the number of supporting peptides of the proteins

#Uniq: number of unique peptides of the protein

% Spec: the ratio of detected peptides to the theoretical numbers

% Cov: the number of amino acids spanned by assigned peptides divided by protein length x 100.

Table 2: List of peptides identified from RP-RP fractionated samples using PEAKS v 6

	Pooled Samples				Non-Pooled Samples			
Peptide Sequence Plus PTM	**M/Z**	**RT**	**-10logP**	**Z**	**M/Z**	**RT**	**-10logP**	**Z**
VALVTASTD(+21.98)GIGF	636.84	48.23	26	2				
VGGHAAEY(+31.99)GAEALER					521.28	18.13	31.58	3
EQGYDVIAYLAN	678.33	51.58	26.52	2				
AVEHLDDLPGALSELSD(+43.99)LHAHK					804.43	34.22	24.62	3
IDAAAPLEK					464.28	17.43	37.08	2
GYISPYFINTSK					695.37	30.19	51.47	2
PSYVLSGSAMNVVFSEDEMK	730.70	48.64	43.59	3	1095.56	39.80	60.82	2
EVAFW(+31.99)NELLSR	698.37	39.11	31.21	2				
WIDIHNPATNEVIGR					579.00	29.92	67.12	3
KVLDSFSN(+.98)GM(+15.99)K					621.85	15.02	32.08	2
DHLLLATM(+15.99)EAM(+15.99)N(+.98)GGK	545.27	18.37	46.17	3	545.29	20.28	39.76	3
WQNNLLPSR	564.32	24.24	32.31	2	564.32	24.95	30.44	2
SDDVINASGYR					598.80	18.50	51.15	2
VSIRPAPETVK					598.87	14.57	38.04	2
TGEHDFGAAFDGDGDR					556.25	21.10	50.62	3
ELVPNIPFQMLLR					785.46	46.42	42.01	2
EVAAFAQFGSD(+21.98)LDAATQQLLSR	787.41	64.41	31.53	3				
LIDAETTASAWPNVAK					843.98	30.66	70.93	2
FFTNFESR					524.28	25.85	28.43	2
VLPGSSMLFLC(+57.02)DMQEK					927.99	40.19	37.38	2
ADLINNLGTIAK	621.87	33.35	53.78	2	621.89	30.61	47.37	2
YALSVGYR	464.76	19.87	36.35	2	464.77	22.27	39.02	2
VPSTEAEALASSLMGLFEK	660.69	66.15	53.26	3				
VEPTDTSFMEAIEFAK					907.96	41.19	36.93	2
EQGVETSVTYYR					716.38	20.57	39.5	2
IEDGVPQHLVLFLGGK	574.67	43.40	50.95	3				
VTHAVVTVPAYFNDAQR	630.00	27.72	56.93	3	630.02	27.53	57.55	3
AQIPVIAVESDK	635.37	26.95	42.81	2	635.38	27.03	42.63	2
LILIESR	422.28	21.66	26.87	2	422.29	23.80	26.9	2
TVTNAVVTVPAYFNDSQR	661.36	37.56	38.11	3				
WMIDSR					404.22	21.02	25.66	2
DAFLGSFLYEYSR	784.39	56.32	46.37	2	784.41	44.28	65.28	2

LQVELDNVTGLLTQSDSK	654.03	49.39	58.6	3				
IFYYIDSLSYSVDAFDYDLQTGK	908.46	64.89	53.21	3	1362.19	48.63	77.59	2
QLIVGVNK	435.79	15.06	27.42	2	435.79	18.19	32.85	2
GDFWVLGDR					532.79	34.54	41.05	2
IIQATLSR	451.28	14.28	28.96	2	451.30	16.65	31.76	2
MLDPAIGEFILVDR					794.96	44.29	46.29	2
IAM(+15.99)QTLDTGR					561.33	13.89	26.21	2
YDGNVYENLFEWAK					874.44	43.51	59.97	2
VEGFPTIYFAPSGDK	814.43	44.31	41.32	2	814.44	37.45	60.98	2
NVVAWHGNYTPYK					774.92	22.76	53.65	2
VTVDAPVSS(+27.99)VALR	671.39	29.69	26.4	2				
C(+39.99)VSIQYLEAVR					660.87	42.99	29.52	2
FFADLLDYIK	622.85	60.09	43.24	2	622.85	45.65	51.33	2
TKDIITAIR					515.83	18.38	23.44	2
AVYIFAK	406.25	21.29	31.73	2	406.25	22.70	31.04	2
VFHLPTTTFIGGQESALPLR					728.76	38.45	35.52	3
DC(+57.02)PVPLPGDGDLLVR					811.95	36.96	32.13	2
IIAVDINK	443.29	18.45	34.72	2	443.30	21.17	35.44	2
VVNVSSIM(+15.99)GR	539.30	15.17	28.22	2	539.30	17.18	25.54	2
DLQMVNISLR	594.86	39.41	32.83	2				
DVGILAMEVYFPAQYVDQTELEK	886.80	65.59	56.14	3	1329.73	48.69	68.49	2
DAISGIGTDEK					553.29	17.58	52.13	2
VKEDEDDKTVSDLAVVLFETATLR	674.13	61.11	54.36	4	674.14	46.98	41.05	4
STFTVAQNELFEAHYAK	652.67	33.14	47.78	3				
YTPEQVAMATVTALHR	596.66	56.97	32.91	3	596.66	36.41	75.13	3
AWNIMVLK					487.78	33.57	42.06	2
VAEEWAQGTFK					633.33	24.39	60.5	2
GNGQR					531.35	54.11	30	1
LGSIAIQGAIE(+21.98)K					611.37	25.82	36.32	2
ALC(+57.02)VDTSLDVFK	684.36	41.46	41	2	684.38	35.51	62.52	2
YDLGGLVMVK					547.83	34.09	46.86	2
NDPIVSSLPTDVK					692.92	27.69	47.15	2
ETHGPLGDWR					584.32	19.72	43.96	2
TAAAVAAQSGILDR	672.38	20.80	55.22	2	672.39	22.62	69.2	2
LLELGPKPEVAQQTR					560.35	23.20	28.18	3
VLSSM(+15.99)TDAVLAR	639.85	18.37	39.84	2	639.87	20.88	45.31	2

DIWAELR					451.76	33.91	30.58	2
IGVAIGDQILDLSVIK	827.50	57.27	42.17	2	827.53	44.96	71.87	2
LLIEHQGISFLLAEM(+15.99)AM(+15.99)K	692.72	44.12	27.02	3				
LNPNFLVDFGKEPLGPALAHELR					637.63	41.85	44.88	4
FSSPTTIATVM(+15.99)NLSK	806.92	31.05	22.99	2				
LTLSALIDGK	515.82	40.22	49.47	2	515.84	35.64	48.48	2
VLVPLLLPEK	560.88	44.88	28.84	2				
LIIDVIR	421.29	32.66	34.78	2	421.30	30.95	28.79	2
AQIFAN(+.98)SVDNAR					653.86	20.66	30.88	2
NV(sub I)AEIDLSTSVLGQK					787.45	33.02	32.37	2
STVFGTALNYVSLR					764.42	39.00	64.21	2
MTDSFTEQADQVTAEVGK					979.01	30.28	63.89	2
DILLRPELEELR	499.30	39.13	31.28	3	748.45	34.35	53.88	2
LEAEINTYR					554.82	18.99	37.62	2
SAEFLLHMLK					594.84	32.87	54.43	2
M(+15.99)EYDGLLIAGGPGNPALAQPLIQNVK	899.17	53.21	50.44	3				
KVPQVSTPT(+27.99)LVEVSR	556.66	25.03	40.99	3				
N(+.98)HVLSLSFPIR					642.37	35.18	31.34	2
LAEQAVQAINK					592.86	18.45	48.68	2
DHLLLATMEAM	622.82	46.73	34	2	622.83	39.44	32.76	2
ALIEILATR	500.32	35.39	47.48	2	500.34	32.80	41.24	2
SIYFQPPSFYVSAQDLPR					1058.06	41.97	63.28	2
FWAN(+.98)FAR					456.74	29.26	26.81	2
TSDQIHFFFAK					670.87	30.50	39.05	2
PAVTLLGDVNAVTK	699.42	35.87	26.28	2	699.43	32.40	46.5	2
SYELPDGQVITIGN(+.98)ER					896.50	35.39	39.9	2
FLEE(+21.98)HPGGEEVLR					767.41	21.87	26.39	2
EKGEFQLLLDALDK	540.31	50.23	29.56	3	809.97	41.69	60.74	2
C(+56.03)MALSTAILVGEAK	731.88	49.04	23.11	2				
TYLAALETLDN(+.98)GKPYIISY					1073.60	44.52	35.11	2
ELFDELVK					496.81	32.32	35.52	2
GGLLMLENFIGGK	674.88	54.97	39.81	2	674.88	43.58	59.91	2
DGSLMFQQVPMVEIDGMK					1013.02	44.06	49.99	2
LFYVSEDPSDVSEK					807.93	27.63	53.89	2
LFQVEYAIEAIK	712.41	47.27	29.37	2	712.43	39.59	50.77	2
TSVPVDSFFSLLTSER					892.99	47.17	43.46	2

SELSGDLAR					474.26	15.83	31.94	2
VLYPNDNFFEGK	721.86	34.84	40.52	2	721.88	31.75	43.19	2
KIEDLGAAMEEALILDNK	658.36	49.92	28.16	3				
NLGADAVGM(+15.99)STVPEVIVAR	639.02	36.99	32.44	3				
WLILEK					401.27	29.42	23.62	2
MELQEIQLK	566.32	28.13	35.1	2	566.33	28.33	41.3	2
MAATFIGNSTAIQELFK					921.50	43.21	60.39	2
VLDSFSN(+.98)GMK	549.78	21.36	39.23	2	549.78	23.31	38.58	2
YLGPAVLMQAYR					691.37	35.22	70.26	2
ASTVGLPTVLEK	607.86	29.20	29.81	2	607.88	28.58	30.28	2
WNQFYSEVLGR					699.88	33.70	55.31	2
ASGTNDKPGGPHYVLR	417.99	11.75	46.51	4				
LGVSLVLSAR	507.83	33.45	37.91	2	507.83	30.01	45.93	2
HFVGYPTNSDFELK	551.95	28.60	41.09	3	827.44	27.89	61.74	2
LSEMETLQSQLLAEK					860.47	35.18	63.83	2
AVVHEVQR					469.29	13.31	29.44	2
GAEILADTFK	532.80	27.87	48.69	2				
GIVGVE(+21.98)NVAELK					625.37	29.04	38.61	2
GLC(+57.02)GTVLIHK	549.32	15.48	32.27	2	549.33	19.36	33.14	2
ALQPTIFPVVPR	669.41	40.17	55.73	2	669.41	34.88	52.02	2
LVPGGGATEIELAK					677.91	26.12	39.29	2
LVSSTSDLQK					539.33	13.78	28.83	2
IHDNWDLTQLK					691.88	26.99	51.53	2
RPPDAVLTDTTSLNQAALYR	734.75	33.80	46.72	3	734.76	30.35	56.32	3
LGSLSSLPATK	537.32	19.81	28.84	2				
DSNLN(+.98)GFYIPK	634.83	35.33	32.47	2	634.84	32.98	47.62	2
VYNIEFNPPK	610.84	28.44	42.33	2				
QFSLFLGK	470.28	36.29	40.23	2	470.28	32.77	44	2
IYELAAGGTAVGTGLNTR	588.67	31.31	33.18	3	882.51	28.90	59.37	2
TTGIVLDSGDGVTHNVPIYEGYALPH	909.14	45.39	44.04	3	909.16	37.24	44.95	3
TTGIVMDSGDGVTHTVPIYEGYALPH	910.79	44.44	39.96	3				
GVIINTASVAAFE(+21.98)GQVGQAAYSASK	821.11	50.20	31.55	3	821.13	40.60	31.64	3
LSMYLMK					443.24	26.51	26.81	2
WLAVPDHAR					532.81	19.87	33.59	2
YFPAFEK	451.24	22.80	23.42	2	451.25	24.66	27.97	2
YPAPVTSLKPR					410.25	18.60	37.4	3

YQLDPTASISAK	647.35	24.62	45.13	2	647.36	24.51	33.9	2
FGM(+15.99)HLQVATPK	415.56	13.61	41.79	3	415.56	16.95	43	3
AM(+15.99)GIM(+15.99)N(+.98)SFVNDIFER					888.93	38.66	45.01	2
LMFN(+.98)DFLLASGDTQTGIYK	712.38	56.49	34.66	3	1068.07	44.13	43.54	2
DLQNVNITLR	593.34	29.97	37.16	2	593.36	27.96	45.7	2
IDVSIEAASGGK					573.85	21.67	49.13	2
SVVLMSHLGRPDGVPMPDK					679.06	27.89	34.22	3
LDLETMSTEDLLNALK	903.49	61.52	30.13	2	903.50	46.74	49.43	2
LSLNIDPDAK	543.31	26.59	53.89	2	543.34	26.17	46.49	2
GLLPGAGGTQR					513.81	18.20	37.15	2
KFILEEIK					510.33	25.02	34.3	2
VQKPGIGVISVSK					437.95	19.58	47.2	3
TLVNPANVTFR	616.36	38.35	35.86	2	616.37	28.05	42.58	2
GLGTDDDTLIR					588.31	23.39	54.52	2
Q(-17.03)LLSHMEEEGVIK					748.43	33.12	33.05	2
LISQIVSSITASLR					744.46	44.65	63.23	2
GYFEVTHDITR	446.57	22.13	34.34	3	669.35	23.67	46.38	2
EVVADSVWVDVK					673.39	31.07	44.33	2
MGLGQAAWK					481.27	23.22	29.95	2
AALSGLLHR	469.30	18.02	51.54	2	469.30	20.09	57.12	2
PAESWEGVR					515.78	17.82	33.09	2
ELSGVDLVIEAVYEDMNLK	713.04	66.93	66.22	3	713.06	49.97	50.71	3
GAEVHVVPWNHD(+21.98)FTK					879.46	24.51	32.28	2
LIIVEGC(+57.02)QR	544.31	17.40	23.21	2				
LIEPNTAVTR	557.32	15.58	37.19	2	557.34	18.70	37.64	2
NLSVEDAAR					487.77	15.43	41.24	2
VLPSITTEILK	607.38	38.48	37.12	2	607.40	34.32	40.25	2
VNDIFER					446.76	19.80	24.89	2
EETVLATVQALQTASYLSQQADLR					879.18	46.29	43.04	3
SVNNSLYLGPILK	709.42	39.25	26.39	2				
YGAFGLPVTVAHLQDETHMLFGSDR	691.12	54.71	34.67	4				
NLAVPLYK	459.29	23.88	24.44	2	459.30	25.39	26.2	2
GILAAD(+21.98)ESVGTMGNR					756.91	24.82	31	2
ELSDFISYLK					607.85	39.98	42.91	2
EELLFMK					455.28	29.61	24.95	2
VSWWER					431.73	25.23	28.49	2

NFITAEELR					546.82	26.11	29.17	2
PVILPPEVAIGALGTIK(+21.98)					570.69	44.57	26.27	3
SFNLIIAK	453.29	30.25	34.13	2				
GLPEGFAHPK					526.80	17.22	42.37	2
VIYPGHGPVIHNAEAK					426.25	16.25	38.19	4
GFVLTFK	406.25	31.78	24.77	2				
AGGVFTPGAAFSR					619.34	27.28	27.02	2
AVNTLNE(+21.98)ALEF					621.85	38.24	32.97	2
VANVELYYR					563.82	23.83	48.65	2
AEAEAMYQIK					577.32	19.58	47.82	2
PVLPNFEFVGGLHC(+57.02)K					571.98	34.85	29.09	3
IVGYFVSGC(+58.01)DPTIM(+15.99)GIGPVPAISGALK					912.82	44.27	24.08	3
AVFGDLPLGAGTVEK	737.42	39.40	56.23	2	737.44	34.48	60.2	2
VQISAVHSEEDIDR					533.28	18.47	37.52	3
TYFPHFH(sub D)LSHGSAQVK					928.48	27.36	42.11	2
TALLDAAGVASLLTTAE(+21.98)VVVTEIPKEEK					964.24	49.92	31.08	3
GLETIANDVVSLATK					765.96	43.35	57.52	2
EVSFNVEIPK					581.33	30.80	36	2
VLQATVVAVGSGSK(+21.98)					669.40	21.85	30.71	2
GVEFLAVPSTYYK(+21.98)					748.41	35.43	23.33	2
VWPHGD(+21.98)YPLIPVGK					800.44	31.09	39.15	2
Q(+57.02)CSSGLQAVASIAGGIR	558.98	39.65	32.39	3				
VIGHPDIVINNAAGNFISPSER	774.10	36.83	58.52	3	774.12	32.28	42.12	3
VTHLSTLQVGSLHVK	405.50	20.45	46.94	4	540.33	22.06	55.92	3
PGMLDFINK					517.79	33.03	38.23	2
YYELHLGVSHPEFPFSEEY	781.71	48.72	37.1	3	781.73	40.28	37.36	3
DFMIQGGDFTR	643.81	35.67	60.53	2	643.82	31.45	55.17	2
GVLFASGQNLAR	616.86	25.58	38.64	2				
VAEIYEEELR					625.85	24.25	42.62	2
VSPEEFTEIM(+15.99)NQR	798.38	27.25	37.12	2				
IM(+15.99)NVIGEPIDER					701.40	24.31	36.65	2
GDYAPILQK	502.79	18.55	46.16	2	502.79	21.12	30.33	2
TYLAALETLDN(+.98)GKPYIISYLVDLDMVLK					1058.26	49.80	41.95	3
TYFPHFDLS(+27.99)HGSAQVK	466.24	28.31	35.64	4				
MTPTVLYDVQELR					782.94	35.57	45.96	2
LFEGNALLR	516.81	28.92	33.36	2	516.82	28.34	32.37	2

IQALLDK	400.75	14.55	29.68	2				
GLPPLGFLNPR					590.85	36.80	27.48	2
YPLEEFVK	512.78	31.52	35.72	2				
LIVVSNPVDILTY	723.42	62.95	37.64	2				
STVELFK	412.24	18.57	31.73	2	412.25	21.74	38.63	2
YSDMIVAAIQAEK	719.89	36.68	41.99	2	719.90	32.94	63.97	2
PTLNEVVIVSAIR					705.94	35.95	55.65	2
IQEELDTVIGR					636.89	26.67	37.09	2
VEIEAIAVQGPLTT	720.92	48.20	42.3	2				
VGEALVSHPEVPLISFTGSQPTAER	874.49	43.57	58.51	3	874.50	36.58	58.36	3
VETGVLKPGMVVTFAPVNVTTEVK					839.16	37.24	64.35	3
YGVEAFSDSLR	622.31	30.62	59.77	2	622.33	28.90	61.24	2
TMVVHEKPDDLGR	499.61	12.04	36.26	3	499.61	14.46	57.07	3
VVDLLAPYAK	544.83	32.53	47.77	2	544.83	30.31	45	2
MEYDGLLIAGGPGNPALAQPLIQNVK	893.86	55.60	63.65	3	893.86	43.50	62.08	3
LGLMEMIAFAK					612.34	43.48	58.89	2
IYEGSILEVDC(+57.02)DILIPAASEK	779.08	54.85	36.79	3	1168.14	43.38	37.93	2
EYYEALPELK					627.86	29.48	43.51	2
AVAID(+21.98)LPGLGR					552.34	33.01	36.29	2
QLDGVPATIDVLPEIVEAVEGK	764.77	66.57	31.51	3				
NPPVNAISTTVAR	670.39	18.76	54.94	2	670.40	21.16	64.78	2
LITSVAEVVNNDPVVGSK	614.36	37.92	80.36	3	921.04	32.98	75.7	2
IVEVLVGK	428.79	20.00	31.22	2	428.80	22.35	36.23	2
YWSQQIEESTTVVTSQTAEIGAAEMTLTELR					1158.26	48.07	58.66	3
VNAGDQPGAH(sub D)LGPLITPQAK					662.04	30.86	41.18	3
FPFAANSR					455.23	21.12	29.04	2
LLDVMEDGLKEEMK					550.65	31.86	35.34	3
VLDASWY(+15.01)SPGTR	683.84	21.69	24.38	2				
QLLDLAQK	464.78	21.58	32.38	2				
GGPYLHPVGLELLVDHK					615.37	33.77	59.3	3
IPFVYSHYTSPGHIIEK	497.78	29.12	54.11	4	497.78	26.79	67.08	4
GLDLQGFLND(+21.98)LEK					742.41	45.90	28.57	2
GISTFTDEDNTVYLLVVSHPDVK					850.48	40.62	30.69	3
DILANVTR	451.27	22.70	34.8	2	451.28	23.78	32.48	2
LAEDYGPVFTLY	694.35	56.59	37.75	2				
NC(+57.02)QEFLDLPEVINWK					953.01	44.73	34.21	2

YLYEIAR	464.27	20.76	34.92	2	464.27	22.78	35.92	2
FVIGGPQGDAGVTGR					715.90	24.81	64.08	2
ILGMTLLQK					508.82	31.87	39.91	2
QVEYLINEK					568.34	21.38	38.76	2
DSNYHLLMSVQESLER					961.00	36.15	63.85	2
GDLGIEIPAEK					571.35	27.58	41.69	2
LTVNDFVR	482.28	28.59	32.09	2	482.29	27.65	42.55	2
E(+21.98)NTLNQLVGAAFGAAGQR					613.67	40.79	36.28	3
DLGFFGIYK	530.29	47.91	43.38	2	530.30	39.86	48.77	2
MAGHDINYLALSGVLSR					606.34	34.98	54.44	3
LLGN(+.98)VLVVVLAR					633.92	45.66	32.02	2
LAE(+21.98)LEAALR					504.30	25.99	28.21	2
YNDTFWK					487.24	24.30	42.75	2
ILQDGGLQVVEK					649.89	24.85	26.09	2
LSPAQLGDIC(+57.02)VGNVLQPGAGATMAR					832.80	39.98	26.27	3
TIPM(+15.99)DGNFFTYTR					789.90	31.60	24.1	2
AEGVILAR					414.78	16.80	31.79	2
ELAEDGYSGVEVR					712.36	22.26	65.78	2
LILTSSASVIFEGVDIK	598.02	54.38	23.64	3				
TGISK					505.32	23.11	24.39	1
ILQEGVGPK	470.79	12.55	38.7	2	470.81	14.97	37.04	2
M(+15.99)IPAAHFFEK	402.88	20.81	29.43	3				
TGAIVD(+37.95)VPVGEELLGR	554.97	45.71	37.2	3				
HADGIAVVGVFLK	442.60	55.21	42.9	3	663.40	33.80	80.91	2
VGQAVDVVGQAGKPK					484.97	15.69	33.77	3
EAGFPPGVVNVIPGFGPTAGAAIASHEDVDK					1007.22	41.60	55.22	3
WLLLC(+57.02)NPGLAELIAEK					920.53	46.95	41.66	2
DGVVVFTLGSMIK	683.39	59.63	23.8	2				
LAVPLYK	402.26	22.86	22.64	2				
TLISILTER	523.32	37.93	31.23	2	523.34	34.64	32.91	2
MGIEWMR					461.74	29.27	34.48	2
SLETSLVPLSDPK	693.40	34.26	43.07	2	693.40	31.34	45.33	2
DLLIAYYDVDYEK	810.42	48.34	41.45	2	810.45	38.94	39.23	2
LFAYPDTHR	560.30	15.33	45.24	2	560.31	18.53	44.29	2
VLVVVLAR					434.81	27.21	27.68	2
QQWVAPFTSGDK					682.37	27.77	37	2

PGFIVNR	401.74	22.32	31.03	2				
WTTAPKPTMADELYDQDYPIHSVEDR					770.39	32.56	48.61	4
ILIPALMVTAEK	649.90	45.56	35.49	2	649.91	38.25	39.08	2
VVLAEDC(+57.02)WLK					616.85	31.18	27.46	2
GYGFGLIK	427.75	30.40	32.54	2	427.75	28.47	44.22	2
LPVGTTATLYFR	669.89	35.69	33.55	2				
NPFLAVVTTNR	616.35	31.29	49.84	2	616.35	29.55	50.69	2
QFLLAAEAID(+21.98)DIPFGITSNSDVFSK					907.50	48.90	33.13	3
EVLDILK	415.27	30.49	26.11	2				
MVLAAAGGLEHR	408.91	17.10	46.86	3	612.86	20.64	56.47	2
F(+43.01)LANVSTVLTSK					661.87	47.35	41	2
VTLVSAAPGK	471.80	14.37	34.91	2	471.81	16.99	44.35	2
NFSD(+21.98)VHPEYGSR					715.36	16.64	26.05	2
ALPFWNEEIVPQIK					842.50	42.98	44.12	2
KQELFSNLR					567.84	18.87	36.26	2
SHEIVLVAY	515.79	28.70	26.37	2	515.80	28.86	23.52	2
LQQELDDLLVDLDHQR	650.69	47.94	37.21	3	650.72	39.37	56.09	3
ALVAYYQK	478.27	15.58	32.38	2				
GIGGIFFDDLDSPSKEEVFR	743.38	49.87	52.38	3				
LVGNPHPLVTSTDIVLTITK	706.76	44.00	28.71	3	706.76	36.07	70.53	3
YDVPFITDEVK	663.35	41.07	43.8	2	663.39	34.83	39.33	2
DVELYEAFSR					614.85	32.67	45.91	2
LADVVAEVK					472.31	20.74	43.39	2
GGHFAAFEEPELLAQDIR	667.35	42.58	61.21	3	667.36	36.90	48.7	3
VEFPQDQLTTLTGR	802.94	37.89	41.86	2	802.95	32.87	57.41	2
AEAE(+21.98)AQAEELSFPR					785.38	26.25	30.24	2
EEGLPVPELFTDPLFSR					973.54	48.21	53.27	2
ISSVQSIVPALEIANAHR	635.71	52.89	56.38	3	635.70	33.95	62.5	3
FENAFLSHVISQH	510.28	35.68	35.7	3				
MGAVFMDAPVSGGVGAAR					846.95	31.54	79.28	2
WVTYFNKPDIDAWELR					685.05	39.45	51.94	3
MSLIEEEGGKR					624.84	16.42	34.46	2
KPLVIIAEDVDGEALSTLVLNR	789.14	54.75	55.25	3	789.16	43.81	47.53	3
QAGIDRPF	452.25	17.83	25.78	2				
NPVNYFAEVEQL(+53.97)AFDPSNMPPGIEPSPDK	814.90	63.37	24.99	4				
NLFQPALPSASWK					729.91	35.39	40.91	2

DVIATD(+21.98)KEEIAFK					750.93	24.85	33.32	2
FVIKPIDK					480.32	19.40	34.23	2
QVFFELN(+.98)GQLR					676.38	35.77	35.4	2
GYFIQPTVFSDVTDDM(+15.99)R	1003.99	47.14	40.17	2	1004.00	38.92	36.88	2
IAMQTLDTGR	553.30	17.33	53.99	2	553.31	19.90	56.87	2
GFLDTM(+15.99)LIEM(+15.99)AK	700.86	38.68	40.14	2	700.87	33.79	52.61	2
LTLTFNR	432.76	24.00	24.73	2	432.76	24.19	32.05	2
IDNFE(+21.98)YSDPVDGSISR					918.47	29.20	28.82	2
LDWATAEALALGSLLAEGFNVR					773.12	50.88	52.8	3
LTFFNSTLSTAGLEPEGEDLPIPGAHRPGVITK	866.98	49.44	30.28	4	867.00	40.23	31.59	4
ALTSELEALGK	566.33	30.15	55.24	2				
LFVEDSIHDQFVR	535.62	32.70	45.63	3	535.63	30.01	40.41	3
AVNT(+27.99)LNEALEFAK	724.39	39.21	42.25	2				
GIGISVLEMSHR					649.88	28.65	50.96	2
ELGLYLN(+.98)TSGQAK					697.89	28.77	38.24	2
PLVC(+57.02)LTDFR					560.82	32.64	29.78	2
TADGGFMAVGAIEPQFYELLIK					1185.66	48.79	38.84	2
LLEAGAFIC(+57.02)QALNR					788.44	38.74	51.82	2
SC(+57.02)TYTYLLGDR					674.85	28.40	38.2	2
YLEQLPGQLK	594.85	26.57	46.97	2	594.86	26.13	50.21	2
LQAE(+21.98)IEGLK					511.81	21.95	25.12	2
AN(+.98)DTTFGLAAGVFTR	771.40	48.19	27.21	2				
ASDVVLGFD(+21.98)ELEGYLQK	635.66	58.20	38.1	3				
AQPGGELMLGGTDSK					730.90	22.56	38.19	2
VLDSFSNGMK	549.29	19.42	29.58	2	549.31	22.26	43.63	2
IINEPTAAALAY	623.84	35.38	31.35	2				
AEIDM(+15.99)LDIR					546.30	24.75	31.87	2
IYQDPQVMLAPLISIALK					1007.08	48.72	66.5	2
LIDKEVISHDTR	475.95	12.10	64.88	3	475.94	14.65	45.18	3
DITGTLSNPGFFNYGVEAHK	723.05	43.92	33.35	3				
VFDKDG(+1.00)NGYISAAELR					586.00	27.27	24.89	3
LSSPATLNSR	523.30	12.91	36.1	2	523.31	15.30	38.16	2
VNVPVIGGHAGK(+21.98)					585.35	19.04	29.67	2
DFDPALTEYVQR					727.41	32.54	55.57	2
VIGNQSLVNELAY					710.41	36.90	37.35	2
IQLVEEELDR					622.35	26.74	41.64	2

TVM(+15.99)ENFVAFVDK	708.37	36.21	30.66	2				
YVGSM(+15.99)VADVHR	417.22	11.93	39.24	3				
KEPLFGISTGN	581.82	26.91	35.4	2	581.84	27.11	46.26	2
APM(+15.99)FSWPR					504.25	26.95	37.92	2
AFAMTNQILVEK	682.89	32.01	64.59	2	682.90	30.02	58.86	2
GTPGLSFGK	432.25	17.33	34.17	2	432.26	20.09	37.45	2
AFDLLVDRPVTLVR	538.67	57.27	30.56	3				
VILQDFTGVPAVVDFAAMR					683.73	47.26	59.1	3
ELFPIAAQVDKEHR					551.65	25.43	39.46	3
LDNVVFHPK					534.82	17.96	35.5	2
LLETLFVHR	564.35	31.08	37.38	2	564.35	28.61	39.41	2
AVLQEFGR	460.26	18.56	31.78	2	460.27	21.30	35.93	2
AEMDQILHGLDK					685.39	29.04	51.13	2
IEIQTLTGLFK					631.88	39.95	34.62	2
IDNFEYSDPVDGSISR					907.47	29.15	56.5	2
ASVGFGGSC(+57.02)FQK	622.81	18.92	33.91	2	622.82	21.54	34.51	2
LPANHPLLTGQR	439.60	13.30	28.26	3				
EKLEATINELI					636.91	35.99	26.93	2
LPFSAMGVSSVIHPK					523.96	31.94	47.64	3
EQGFETEDIK					598.30	18.27	42.18	2
SGVSLAALK	423.27	19.07	38.73	2	423.28	22.32	42.93	2
KDLYANTVLSGGTTM(+15.99)YPGIADR	787.08	33.08	45.74	3	787.10	29.87	45.12	3
QNLIAEISTK	558.83	25.61	36.21	2				
VGGHAAEYGAEALER					510.62	17.87	59.61	3
AFAM(+15.99)TN(+.98)QILVEK	691.36	25.28	41.06	2				
ALPC(+57.02)IVDVR	521.81	29.04	31.83	2	521.81	28.37	36.35	2
FWLFGGN(+.98)ER					563.79	38.80	35.57	2
ILLNACC(+114.04)PGWVR					729.88	31.02	32.39	2
LSFQIFTNK	549.31	36.80	31.5	2	549.31	33.02	42	2
IIPGFMC(+57.02)QGGDFTR					799.90	32.62	46.07	2
LSQYEEPIHLPGVR	546.64	30.26	48.01	3	546.65	29.09	43.15	3
DGFGFASSTVLQLTK					785.94	41.49	58.6	2
DAGVIAGLNVLR	599.37	41.80	38.57	2	599.38	35.77	52.11	2
TILDELVMR					545.33	37.61	42.73	2
AALANEDGQISPGSLLLAGAIAGMPAASLVTPADVIK					1168.37	49.16	39.28	3
MLSPFELVQYSLETEEPLR	761.08	65.66	26.2	3				

LFAEGATPVPH	569.81	23.57	34.78	2				
ILDSVGIEADDDR					709.38	24.78	66.57	2
RGTLQSYFD	543.78	23.80	24.52	2	543.79	25.35	34.89	2
AVINNPIYK	516.31	19.81	45.64	2	516.32	22.18	45.55	2
GFGFVTFDDHDPVDK	565.95	37.34	48.37	3	565.95	33.14	34.26	3
TFEINPR	438.74	15.72	39.56	2				
LIAPVAEEETR					614.36	20.56	36.61	2
TGVLAAITAF	482.29	54.53	28.21	2				
EGHPVTSEPSRPEPAIFK	495.28	15.84	54.88	4	660.06	19.17	34.82	3
YIANTVELR	539.81	18.78	23.74	2				
VLAGC(+57.02)LTEQGAEQLR	548.96	26.67	46.48	3	822.95	26.23	46.37	2
IM(+15.99)EFFFLK	545.79	44.27	31.67	2	545.80	37.68	41.52	2
GTTVLPLLSSILYDC(+57.02)K					890.49	46.94	34.06	2
FLNHYLPEFR	445.91	33.33	26.33	3	445.91	29.77	29.08	3
DLQDSGVSIFFYEFQHR	696.69	57.23	24.27	3	1044.56	44.91	53.42	2
LLVVTDPR	456.79	19.58	42.83	2	456.80	21.86	41.14	2
TFAYTN(+.98)HTVLPEALER					621.68	31.41	35.74	3
AIMGLYR					412.24	23.70	40.92	2
IAAYLFK					413.25	25.34	35.27	2
STDYGIFQIN	579.29	45.79	26.1	2				
IPNILSAFPHLQEYTVK					657.38	41.22	28.56	3
LADLIER	415.25	17.96	34.21	2	415.27	20.24	33.88	2
VLLLEQFFLPH	678.40	64.13	34.49	2	678.41	48.16	42.14	2
HTLPLVGHR	515.31	11.84	42.4	2				
VNPADGGC(+57.02)LLEK					636.86	21.05	24.58	2
DSEDSPAIEAIR					651.83	22.94	41.85	2
IKENIQVFDFELTLEDMK	738.05	42.23	44	3				
IASVQTNE(+21.98)VGLK					640.87	20.31	30.33	2
IFAENDAVIPLEQVSLLTQK	743.43	57.63	29.33	3	743.45	45.00	32.42	3
DLGTESQIFISR	683.38	35.92	64.58	2				
HATGEAIYC(+57.02)DDMPVVDR					650.33	24.91	35.85	3
ILAAEHLSQDTALGGK	541.97	20.50	24.86	3				
ILEFIAVSQLR	644.89	46.01	34	2	644.89	38.00	38.16	2
AVEILAQEMVTDMPSSFEGK	728.03	51.94	59.45	3	1091.57	41.78	80.09	2
GLTSVINQK	480.29	15.33	40.28	2	480.30	18.44	43.06	2
GNDVLVIEC(-33.99)NLR	655.88	33.62	26.99	2				

VILAEFNYNAEPLETFPFDQSK	858.12	59.66	42.77	3				
LSS(+27.99)PATLNSR	537.29	13.50	25.99	2				
VELSDVQNPAISITENVLHFK					785.12	44.75	48.47	3
TVMDIDTLGTFNVSR	834.94	45.06	58.8	2				
LITGLAAGAQVYK	652.90	27.99	52.49	2	652.90	26.73	60.28	2
KN(+.98)GGLGHM(+15.99)NIALLSDLTK	633.70	51.68	24.23	3				
STLLDSDEPLVYFYDDVR	716.39	59.96	42.82	3				
VLEGMDVVR	509.29	22.68	44.43	2	509.29	23.92	46.08	2
MGPLINRPHLER					478.29	18.90	43.95	3
AVAQAGTVGTLLIVK	720.96	36.15	53.47	2	720.96	31.74	71.55	2
V(+43.01)VAGVANALAHR	610.87	42.68	29.45	2	610.86	36.14	49.42	2
VPAAEPVPESPK					610.85	16.56	28.14	2
VLDFEHFLPMLQTVAK					630.02	46.01	54.85	3
LAPDYDALDVANK					702.90	27.05	40.03	2
AGLILFGNDGR	566.82	34.45	37.16	2	566.84	32.08	39.16	2
MSLSLPLINR					572.34	36.40	40.27	2
SNLNIFQYIEK	684.87	46.12	22.94	2	684.89	39.10	55.58	2
GFLPLASEK	481.29	26.40	28.02	2	481.29	27.28	38.01	2
LITEDVQGK					501.81	15.53	25.76	2
LLIGTVFHK					514.33	26.17	35.87	2
AGAGSATLSMAYAGAR	727.87	22.27	35.09	2	727.91	23.67	60.36	2
IAEGVPQLLIVLTADR					854.52	46.49	50.17	2
GLGTDEDTIIDIIAHR	580.31	48.53	54.75	3	580.33	40.43	53.96	3
IHFNPPLPM					533.31	34.32	30.5	2
EALIDQGEEFSGR					725.87	25.38	45.73	2
IQEAGTEVVK					537.31	14.00	40.99	2
VMPFVDILFGNEVEAAT(+2.00)FAR					1114.59	49.37	24.16	2
LIFDSVDFC(+57.02)R	636.33	41.52	37.4	2	636.34	35.42	42.32	2
DQWDIIEGLIR	679.37	61.89	23.88	2	679.39	46.90	58.18	2
LPLPPSYVPVMLSELSDR	671.72	64.77	63.59	3	1007.08	47.41	46.61	2
ALQASALAAWGGK					622.36	28.49	68.2	2
YSLQPVAVELK	623.88	32.55	43.08	2	623.88	30.29	56.43	2
LLVLVTGGK					450.30	25.24	28.18	2
IQEEAQFLVEEFR					819.47	37.24	58.39	2
KLAPEYEAAATR					660.40	14.78	33.76	2
FEIFPVSLTK	590.85	53.87	31.15	2	590.86	39.20	37	2

VQIAVANAQELLQR	776.94	37.02	37.62	2				
INPSSM(+15.99)FDVQVK	690.86	24.26	39.27	2				
ALVITVDVPK	527.84	32.61	41.48	2				
NPEPELLVR					533.82	23.85	33.59	2
VWFVSNIDGTHIAK					529.63	30.76	39	3
CCT(-2.02)ESLVNR					511.76	16.71	25.2	2
QLEPVYTSLGK					617.86	25.01	40.7	2
ALELNMISLK	566.33	39.62	43.95	2	566.35	35.10	45.9	2
VFVVGVGM(+15.99)TK	526.81	20.75	37.41	2	526.81	22.26	33.21	2
GIVTNWDDMEK					654.35	27.75	35.65	2
HNQLPLVIEFTEQTAPK	655.71	40.28	60.43	3	655.72	35.68	59.86	3
FVLDTLK	418.26	26.88	29.43	2	418.27	27.19	29.97	2
AAVTAFW(+15.99)GK	483.77	24.99	28.53	2	483.78	17.13	31.19	2
YTAIPIVGQVFQSK					775.95	38.60	41.26	2
EGYLQIGVN(+.98)TR					625.85	27.46	37.32	2
ALMDEVVK					452.78	22.68	35.47	2
GYFIQPTVFSD(+21.98)VTDDM(+15.99)R	676.99	47.18	28.35	3				
ISPGAFAPLVK	550.34	32.72	28.41	2	550.34	30.22	37.66	2
LSDRPQLPYLESFILETFR					775.44	48.20	60.34	3
ILGEGMAAIPEHIDVIYLHGFGWPR					698.63	44.94	41.2	4
PVGPHIMGK					468.26	28.28	34.86	2
TAHIVLEDGTK					592.36	14.67	35.71	2
ELGEYGFHE(+21.98)YTEVK					861.94	25.48	35.52	2
VAPEEHPTLLTEAPLNPK	652.71	27.72	58.03	3	652.71	27.34	50.1	3
QSD(+21.98)LDLLAK					512.79	24.94	25.57	2
VVFIFGPDK	511.30	35.90	35.23	2	511.30	32.29	39.91	2
SSPPIPLAK	455.29	17.00	24.35	2	455.29	20.14	31.9	2
ALEDNMSLDEIMK					754.91	34.32	67.31	2
VAFTGSTE(+21.98)VGK	559.29	14.70	30.53	2	559.29	17.36	39.31	2
SLIDGILTDK	537.81	38.41	41.95	2	537.83	33.86	43.3	2
TLLSPAFTSGK	561.33	26.01	35.23	2	561.34	26.46	27.75	2
GAEEMETVIPVDVMR					838.46	36.41	44.23	2
RPDPIDWSLK					613.86	25.87	53.66	2
VDLTPTYGLTMK	669.87	34.61	46.17	2				
QSVEADINGLRR	453.25	17.16	28.28	3				
LNLEAINYLSAGGDFK	862.96	49.33	49.45	2				

FVGLQER					424.76	17.76	26.47	2
GYEEWLLNEIR					711.39	40.84	61.77	2
IVNSD(+21.98)PIEESIK					683.39	23.23	28.74	2
IITHPNFN(+.98)GN(+.98)TLDNDIM(+15.99)LIK	767.75	43.69	33.74	3				
LGPDLADAAQAR					599.36	23.08	35.81	2
GNNISSGTVLSDYVGSGPPK	650.35	33.44	39.48	3	975.03	30.14	74.91	2
TPFLLSGTSYK	607.34	30.13	53.15	2	607.34	28.61	51.52	2
DFTPTH(sub D)MAEFAAR					747.38	35.04	23.93	2
GYFIQPTVFSDVTDDMR	995.99	52.94	37.72	2	996.00	42.20	63.91	2
YFDLGLPNR	547.80	34.64	40.52	2	547.81	31.70	47.61	2
LAYVWNNDIYVK					749.42	33.86	41.2	2
QVGATEC(+57.02)INPQDYEKPIEEVLK	854.12	44.16	30.98	3				
DSFWSYLSTVR					680.85	42.43	66.03	2
GVILTSDC(+57.02)PR					559.33	18.50	27.31	2
LFSNAYLM(+15.99)DLGGC(+57.02)IK	859.43	45.16	23.07	2				
APAAIGPYSQAVLVDR	814.47	33.05	58.49	2	814.49	30.15	68.59	2
DSFWSYLSTVK					666.84	41.85	50.27	2
DM(+15.99)ELIYPFK	586.30	37.44	29.87	2	586.32	33.12	35.68	2
DYKEPGIFK	548.80	18.11	28.14	2	548.80	20.88	40.24	2
LAVSQVPR					435.28	16.74	37.46	2
ADM(+15.99)VIE(+21.98)AVFEDLNLK	582.30	60.30	31.1	3				
SAYALGGLGSGW(sub L)CPNR	804.92	31.44	35.18	2				
LTGTIQNDILK					608.38	25.68	35.96	2
IMQLSAPH					448.75	20.55	25.7	2
T(+42.01)EQAISFAK	518.78	28.89	29.18	2				
PVYPGQTLQTEMWK					839.46	32.36	44.08	2
QPLVIIGK	434.30	21.06	31.86	2	434.30	23.55	32.13	2
LLLPSLISSR					549.85	49.93	45.11	2
LVVVGAGGVGK	478.31	16.94	32.6	2				
YSLDVWS					869.43	35.94	26.51	1
SPNPALWWVND(+21.98)QGDEVK					989.01	37.03	33.48	2
SNAEFQLLR	539.29	26.08	28.19	2				
ALEDNMSLH(sub D)EIMK					765.90	34.43	27.03	2
FSTWTNSEFR					637.82	26.40	48.76	2
SQYEQLAEQNRK	498.59	11.77	36.72	3				
VGFFQGDIR	519.79	27.97	49.7	2				

FYSVNVDYSK	611.31	24.39	38.26	2				
PALELLEPIEQK	690.41	39.87	35.75	2	690.42	35.29	41.8	2
INSVSSGLAEEDLEAILQSR	711.05	54.11	30.94	3				
VAN(+.98)GAFTGEISPGMIK					796.94	31.70	48.39	2
DAVEDLESVGK	581.30	28.13	32.94	2				
LSSVLLNSHTDVVPVFQEYWSHDPFEAFK					848.72	46.52	40.15	4
TVTAM(+15.99)DVVYALK	663.87	33.12	45.54	2	663.88	30.78	40.14	2
HGGTIPIVPTAE(+21.98)FQDR	587.30	29.46	28.45	3	880.48	28.53	28.87	2
HSMNPFC(+57.02)EIAVEEAVR					630.32	33.48	31.25	3
VVSTDVDVILR					608.38	29.69	45.29	2
GSSGGIQPDLLISLTAPK					877.52	40.10	42.27	2
ASVLIVYGDQDPMGQTSFEHLK					812.44	35.29	31.44	3
PLISVYSEK	518.30	21.14	32.33	2	518.32	23.41	26.38	2
DVPAETLYDVLHDIEYR					1024.54	47.53	58.36	2
NPHVVLSQLSQR	459.94	16.86	48.44	3	459.94	19.07	45.53	3
VN(+.98)SLAPGPISGTEGLR					784.94	28.20	24.88	2
AAGC(+57.02)DFTNVVK	591.30	19.04	42.33	2	591.30	21.24	53.73	2
YLMDEGAHLHIYDPK	451.23	27.35	43.44	4	601.32	26.92	43.04	3
TPAQYDASELK					611.83	17.15	49.83	2
MGTSVLEALGDGEFVK					826.95	39.81	52.04	2
AFYAELYHIISSNLEK					949.50	44.06	37.9	2
ASVDSSRPILLQIAESAYR	692.73	47.77	57.71	3	692.73	38.81	54.27	3
TSLSPGSGVVTYYLR					800.44	32.99	34.56	2
TSIAIDTIINQK	658.90	33.20	57.93	2	658.91	30.42	55.94	2
IPQTVLWR					506.81	27.25	43.17	2
EDPTVLELK					522.30	24.83	37.88	2
ALLELQLEPEELYQTFQR	740.75	61.18	37.3	3				
WLIPLLEGK					534.84	42.26	31.33	2
LTQSN(+.98)AILR	508.80	14.94	33.65	2	508.81	18.50	37.6	2
GGETVLVSAAAGAVGSIVGQIAK(+21.98)					1039.07	48.28	28.81	2
SDVLELTDDNFESR					820.41	31.70	45.88	2
M(+15.99)NQDPVGDEVLHFLLK	624.34	52.51	26.15	3				
ELSD(+21.98)FISYLK					618.84	40.11	29.12	2
LLFPSFIHSQK	658.89	54.27	22.66	2				
ALLEVLGR	435.79	30.64	31.01	2	435.79	29.66	32.09	2
GNPESSFSDENLR					726.34	20.25	60.26	2

GSNATSSLYQAVAK	698.87	20.64	62.17	2	698.89	22.92	58.41	2
GKPIHHFLGTL(sub S)TFTQYTVVDEMSVAK					730.63	36.62	30.56	4
DPFAHLPK					462.77	20.80	35.76	2
AMLSNQHIPLESSNLFK	643.69	35.35	40.27	3	643.70	32.12	45.25	3
DFIDAYLQEIEK	742.40	59.52	40.11	2	742.40	45.84	56.78	2
SAGWNIPMG(sub A)K					530.79	26.54	32.16	2
IYFMAGASR					508.27	23.56	51.75	2
WLPQND(+21.98)LLGHPK					720.41	26.48	23.42	2
VLVWPVEFSHW					699.88	45.52	39.95	2
LSFQHDPETSVLILR	585.67	36.42	56.4	3	585.69	32.68	45.89	3
HYGPGWVSMANAGK					737.87	22.08	77.44	2
N(+.98)GFLLDGFPR	568.81	50.99	26.98	2	568.82	41.23	35.07	2
TAVVVGTITDDVR					673.40	26.38	52.79	2
SLGQMPVIIAGNDQQQK	609.67	32.65	43.74	3				
AQGLVTHAIYQQAQC(+57.02)LLK					681.38	33.75	49.47	3
ILHGEQYLELHKPIPR	486.54	19.58	63.72	4	486.55	22.23	69.48	4
VGDAIPSVEVFEK	695.38	36.48	28.53	2	695.42	32.27	31.8	2
DGPLNMILH(sub D)DGGDLTNLIHTK					758.75	46.83	50.76	3
DIQYLPLIK	551.85	42.83	32.79	2				
LERPVIHIDQTGENVLVETLNHELYEAK	652.76	49.02	44.13	5	815.72	40.50	49.85	4
NWRPPQPIK					568.34	17.87	47.06	2
FYVFVQK	465.77	25.34	38.54	2	465.77	25.91	50.88	2
AVAIDLPGLGR	541.33	36.88	39.36	2	541.35	32.98	42.76	2
GHFYIFDVLDQDGNIVSASEIQAHLK					729.91	44.92	36.96	4
QAQIEVVPSASALIIK					834.03	36.31	32.28	2
FVEGLYK	428.25	18.14	34.26	2	428.25	20.90	35.48	2
GTVVIPTLD(+21.98)SVLHDR					822.48	36.86	25.95	2
TVLSGGTTMYPGIADR					819.95	28.65	61	2
EIEGLYGK					454.77	18.29	37	2
VIPLFIPQC(+57.02)GK					636.38	33.88	36.14	2
AISGPFNVQFLVK					710.41	39.20	43.67	2
LPVPPLQQTLDHYLK	588.02	46.57	25.44	3	588.02	38.00	39.31	3
ENIQVFDFELTLEDMK					986.04	39.75	39.42	2
GAAVEVDLQR					529.31	19.50	43.66	2
IAPSFAVESIEDALK	795.45	52.97	43.33	2	795.46	43.05	56.51	2
KQPESDSLVVTSEDGITTIR					725.76	27.79	42.41	3

AGIPVYAWK					502.80	28.23	42.37	2
EVLLDYK					440.28	22.40	25.72	2
EDILNYLEK					568.84	34.18	33.51	2
DLEAD(+21.98)ITGDTSGHFR					828.42	28.08	41.41	2
YYPTEDVPR					570.31	19.36	31.47	2
PLLDDSQFR	545.79	25.34	24.32	2				
GNFDEALAAHK					586.81	16.96	58.74	2
DMNLTLEPEIFPAATDSR	674.02	53.99	49.4	3	1010.54	42.35	43.8	2
SGHPLGLFPSSPEAPR	550.30	25.25	32.46	3				
FHDYLGDSWGILF					785.40	47.88	26.56	2
DSYWLPSLVLAR					710.40	44.58	42.06	2
EFEEFVQSSGK					643.82	23.08	57.03	2
ALSQGFQASWNQASPEIK					981.54	30.81	69.17	2
AAPFTLEYR	534.30	27.46	29.37	2				
FEYIITAK	492.79	25.09	27.42	2	492.80	26.06	36	2
QIDDVLSVASVR					651.38	31.12	39.84	2
ILENIQVFDFTFSPEEM(+15.99)K	735.05	58.89	33.53	3				
FAYPDTHR	503.76	15.42	29.08	2				
VPAINVND(+21.98)SVTK					639.86	21.54	48.05	2
SYLENPAFMLLDLK					827.47	47.10	54.95	2
VPPETLANTLAELDR	819.94	44.60	38.3	2	819.97	38.01	61.54	2
IEGLDIHFIHVKPPNLPSGQTPK					635.13	32.45	50.47	4
TSTFSEYTVMDEISVAK					954.49	37.30	41.15	2
TLGV(sub I)DFIDVATK					639.88	36.03	35.25	2
SVGYKPDFVGFEIPDK					600.01	33.95	60.92	3
EW(+31.99)PSDIDLR					581.82	30.04	23.81	2
FFESFGDLSTAD(+21.98)AVM(+15.99)NNPK	710.01	42.74	29.1	3	1064.52	35.54	28.07	2
WTEYGLTFTEK					687.87	31.97	51.84	2
LFSNAYLMDLGGC(-33.99)IK					805.94	40.85	32.84	2
KFYGPEGPYGVF					680.87	34.38	30.23	2
VLAEHGVAALFTAPTAIR	613.02	40.07	40.76	3	613.04	34.09	55.31	3
TFDTFC(+57.02)PLGPALVTK	833.95	45.74	34.4	2	833.98	38.22	46.32	2
DLVLTPEMSK					566.84	27.51	33.73	2
ENVLIGE(+21.98)GAGFK					628.36	26.60	34.92	2
LC(+57.02)ENIAGHLK	577.81	13.25	34.55	2	577.83	16.67	42.67	2
TIPID(+21.98)GDYFSYTR					785.40	33.55	33.94	2

LQHGTILGFPK	404.25	22.52	37.44	3	404.25	24.35	33.23	3
KVEFVSELPK	588.34	20.08	43.4	2	588.36	22.96	44.84	2
ADPLGLQAE(+21.98)QDGVPVFK					903.49	35.89	35.2	2
FGYDEMDN(+.98)GYLK					726.85	29.68	39.53	2
AFAMTN(+.98)QILVEK	683.37	33.62	47.13	2	683.39	30.61	50.14	2
EPSPDSGLLGLFQDQN					858.95	45.57	31.93	2
FYAPELLYYANK	746.39	50.45	38.48	2	746.41	37.31	37.86	2
GYEPDPSITK					553.80	17.36	36.36	2
KLDLPGAALEAASR	471.29	28.74	35.83	3	706.43	28.12	41.02	2
VGVIDLSPFGK	566.33	41.86	54.51	2	566.35	36.21	51.58	2
VTVAGLAGK	408.27	14.32	39.58	2	408.27	17.20	40.68	2
LFQWAQK					460.76	23.93	32.77	2
ANNTFYGLSAGIFTNDIDK					1031.05	41.40	61.6	2
DGEVLLEALYLTVDPY	905.47	68.22	45.84	2	905.50	51.38	46.03	2
LFLHESIHDEVVNR					569.99	23.11	64.88	3
WISIMTER					518.29	29.35	35.93	2
KVESIIHSEPELSLK	570.33	22.40	47.44	3	570.34	24.42	49.92	3
APMFSWPR					496.25	30.74	55.79	2
FLSQPFQVAEVFTGHLGK	669.04	52.06	34.46	3	669.04	41.83	56	3
LSTSEGLIFQLVGDATHPQFK	763.42	57.96	27.4	3				
QVALMVQER	537.31	17.58	32.03	2				
SVSLPADTVVEWK					715.91	33.33	43.43	2
VDAIAETDLAK					573.32	21.31	45.92	2
VYGTVMHMNHGNPFNLK					653.66	25.74	51.82	3
FKDLGEEHFK	417.23	12.59	31.73	3	417.25	15.64	49.55	3
PHPVYSK					414.24	17.48	27.78	2
YMVGPIEEAVAK	653.85	30.09	35.01	2				
APILFNK					401.76	20.84	33.13	2
LEEM(+15.99)LKPLVEEGLR	557.99	30.19	57.57	3	558.00	28.69	49.38	3
NFLTTAIRPH					585.34	23.86	32.97	2
DFPEELPGMKPF	703.84	50.02	23.44	2	703.87	40.69	26.82	2
IDFDLEEYAR					635.85	34.62	49.49	2
VDILENQVM(+15.99)DVR					723.92	26.48	33.42	2
IFGVTTLDIVR	617.38	52.63	44.36	2	617.38	37.36	53.7	2
APYNVISDILFHK	506.28	49.02	27.8	3				
ISSLYGDLR	512.29	22.40	30.28	2	512.30	24.13	33.61	2

QAFQIGSP(+15.99)WR	603.33	27.93	32.97	2	603.32	29.99	26.17	2
IITSILEK	458.80	23.16	29.73	2	458.81	24.88	28.18	2
TGPNLHGLFGR	584.83	25.23	30.23	2	584.83	25.04	55.81	2
AGQQGLSVAFDLATHR	557.65	33.26	38.91	3	557.65	31.08	36.24	3
GYIFGVHGK					489.28	17.78	23.6	2
LAHEDPDYGLR					429.23	16.07	44.3	3
GGHFAAFEE(+21.98)PELLAQDIR					674.69	37.05	45.51	3
C(+39.99)DVVVVGGGISGMAAAK	787.40	46.70	36.1	2				
AIEEQVAVIYAGVR	759.44	38.06	53.74	2				
NILYM(+15.99)ASETIK	649.85	25.70	35.35	2				
DYFFALAHTVR					670.37	33.83	62.29	2
GVTLFSSTK	470.27	18.20	30.92	2				
DQE(+21.98)GQDVLLFIDNIFR					972.53	50.29	36.46	2
KGFIGPGVD(+21.98)VPAPDMSTGER					684.70	29.94	46.89	3
VSHVSTGGGASLELLEGK	580.99	24.28	46.95	3	581.00	25.55	50.59	3
IHFPLATYAPVISAEK	586.34	41.10	24.41	3	586.34	34.76	42.95	3
GLEVGVLVNNVGQK	713.43	32.81	56.01	2				
HIAAAIEVHEVLLPGLQK	485.30	35.10	23.4	4				
IGIIGGTGLDDPEILEGR	912.99	49.06	40.9	2	913.02	39.88	59.37	2
VALLSGGGSGHEPAHAGFIGK	491.28	19.60	39.76	4				
TFSHELSDFGLESTTGEIPVVAVR	864.46	49.02	53.94	3	864.48	39.83	46.99	3
VVLVLAGR	413.79	21.84	23.72	2	413.78	23.61	29.32	2
HIEVQILGDQYGNILHLYER	603.33	47.48	27.06	4				
TLYEGFQR	507.26	18.14	35.81	2				
ALQELFPDWK					623.86	37.52	51.03	2
EEQIPDGMC(+57.02)IDVEGK					860.41	29.35	31.76	2
QEFPEPEK					502.26	15.72	29.16	2
ALTGGIAHLFK					564.34	27.28	55.03	2
QLETLAQEK					530.30	15.39	39.03	2
IGFTGSTEVGK	548.30	17.00	43.91	2	548.31	19.79	54.43	2
VEN(+.98)GGVAVLTGK					572.85	21.34	33.03	2
APVKPGIPYK					535.32	15.34	37.76	2
LLEAQSHFR					550.83	15.72	36.33	2
GPSGPQGPSGPP(+15.99)GPK					666.88	12.56	35.57	2
AIEINPDSAQPYK					723.42	23.24	40.86	2
DLEDGGLER					502.25	17.68	39.72	2

SVAEINQD(+21.98)LIQF					699.88	41.87	34.22	2
IKPHLMSQELPDDWDKQPVK					601.84	25.56	59	4
EEASDYLELDTIK					763.40	31.92	65.72	2
EQGYDVIAYLANIGQK	594.66	55.41	60.4	3	891.50	43.74	60.91	2
VQTLIYPALQNFDFDLPSYR					800.78	46.77	66.1	3
GHEIVVVVPEVNLLLQESK	701.42	50.73	58.32	3	701.44	41.73	61.99	3
HVLFPLK					427.28	21.48	30.37	2
EEIFGPVMSILSFDTEAEVLER					837.79	49.61	73.64	3
WAVQVIK	422.27	23.75	25.8	2	422.28	25.17	31.99	2
FLQFVR					405.24	26.26	25.16	2
DVC(+57.02)TELLPLIK					650.89	40.50	25	2
TKYPNLISY	549.81	27.47	25.49	2	549.82	27.62	27.6	2
TIAMDGTEGLVR					631.87	25.02	43.94	2
S(-2.02)CAAAGTECLISGWGNTK					883.94	32.03	23.91	2
GPSGPQGPSGPPGP(+15.99)K					666.87	12.61	26.17	2
EGASILLDGR					515.82	23.59	37.6	2
FVGTVDPIMEK	618.34	27.24	39.33	2	618.35	27.22	48.76	2
FIITAGSK	418.75	16.26	30.61	2	418.76	19.27	29.66	2
QAEMLDDLMEK					661.84	30.32	42.07	2
E(-18.01)AHFLLEVLR	403.58	36.42	23.49	3	403.59	33.66	29.96	3
IASALAQIPQK	570.35	20.30	50.28	2	570.37	22.25	48.03	2
VDAIAETD(+21.98)LAK					584.31	21.43	36.73	2
HQAQIDHYLGLANK	536.63	17.73	37.61	3	536.64	21.09	65.26	3
LLGWIQNK					486.29	27.37	29.68	2
Q(-17.03)WLHEVK					461.76	24.13	30.36	2
EIAM(+15.99)LVSR	467.76	15.94	22.52	2				
AAEYGAEALER					590.30	18.61	54.33	2
M(+15.99)LVVLLQGTR	573.35	28.99	38.84	2	573.35	27.88	40.91	2
VTVLFAGQHISK	433.93	20.50	24.37	3				
LPPGPFPLPIIGN	666.40	63.61	38.79	2	666.40	47.84	39.59	2
DVSHLIISR					520.32	21.93	45.99	2
DSFFQVK	435.73	24.77	27.03	2	435.74	25.78	37.36	2
PGTPYLDIVR	565.83	30.13	35.86	2				
LFAYPD(+21.98)THR					571.30	18.57	26.31	2
SLIDGILTDKK					601.88	28.70	55.16	2
TLGLTNVGIYK					589.87	29.46	30.77	2

DVVDYIIFGTVIQE(+21.98)VK					930.53	49.00	35.24	2
LGGSAVISLEGKPL	670.92	35.02	25.76	2				
VDLTPYPTISR	631.36	29.72	47.14	2	631.37	27.92	48.92	2
AAYFGVYDTAK	603.31	24.88	34.61	2	603.32	25.49	43.73	2
QISTLHAQVTDM(+15.99)R	505.94	12.52	24.09	3				
Q(-17.03)SGGYVATVGTK	575.80	18.99	38.16	2	575.81	20.23	42.06	2
L(+14.02)ALVTGAGGGIGR	578.36	22.92	26.15	2				
LK(+72.06)EWVNPNLPFLLEDPVLSAIAK					893.54	49.25	30.52	3
GSLQHAETFLQNLK	529.30	31.43	32.44	3				
TVLIM(+15.99)ELINNVAK	737.43	50.32	38.26	2	737.44	40.59	44.43	2
EQGFLSFWR					585.31	38.90	46.9	2
WKPFEIPK					522.81	26.26	29.67	2
VLAANHFGR					492.78	18.50	23.11	2
LLEAC(+57.02)TFHKP					405.90	19.63	23.66	3
PEEHPVLLTEAPLNPK	595.35	29.35	44.67	3				
ELSYFGVK	471.76	24.99	34.39	2	471.77	25.92	37.87	2
FQSDPPAPSDDSIK					752.37	19.17	39.13	2
PMILGYWDIR					632.34	40.07	39.25	2
TLFVAGER					446.75	19.68	25.53	2
TLVPELIK	456.80	30.11	26.35	2	456.81	29.57	29.35	2
TNVH(sub N)GGAIALGHPLAGSGSR					936.51	23.44	27.35	2
LFNAIIHR					492.30	21.93	36.38	2
LLLLGTGESGK	544.33	25.99	29.83	2				
LGQLEGLLQAR	599.36	34.21	35.42	2				
VLVEPD(+21.98)AASGVAVMK					754.42	28.65	44.42	2
DGPLNM(+15.99)ILDDGGDLTNLIHTK	756.74	57.53	37.16	3	756.75	45.10	42.85	3
NSIPK	558.32	36.59	22.6	1				
GLN(+.98)SESITE(+21.98)ETLK					722.37	25.64	24.85	2
QLAPIWDK					485.79	26.25	37.9	2
EVSGGGVDFSFEVIGR	827.92	45.19	51.43	2	827.94	37.52	71.69	2
KVFIEDISK	539.82	16.30	44.27	2	539.83	19.80	46.64	2
LC(+57.02)YVALDFEQEM(+15.99)ATAASSSSLEK	856.08	44.07	36.18	3				
YLGSFYTDSLVHDPLALK	680.37	47.24	31.85	3				
QVEILNK					422.27	15.71	23.64	2
VGIVGYGR	410.75	15.63	33.65	2				
L(+27.99)HVDPENFK	563.80	28.93	33.99	2				

IITHPNFN(+.98)GNTLDN(+.98)DIMLIK					762.43	36.56	24.74	3
ADHGDEVLFLFR	473.58	41.38	36.78	3	709.89	36.40	71.21	2
AVEHLDDLPGALSELSDLHAHK	474.25	38.61	63.42	5	592.58	34.06	74.12	4
FAQVLPDGTYVK	669.38	29.46	29.7	2				
IYSTLAGNR	497.78	12.91	38.25	2				
GNPTVEVDLFTAK	695.88	35.03	53.05	2	695.89	31.94	61.06	2
KFPVFN(-17.03)PATEEK	463.92	21.07	29.34	3				
LQHLQAPLSWELVR					564.01	33.17	36.53	3
TPAFAESVTEGDVR					739.90	24.52	57.4	2
HYTIAALLSPY	624.84	45.08	33.09	2	624.85	37.55	27.27	2
ETLQQMAEVTR					653.39	25.06	23.62	2
TLAD(+21.98)AEGDVFR					608.30	25.72	28.44	2
LLVVPQDGSHWLSMK					570.66	33.71	34	3
AAVQQLQAE(+21.98)GLSPLFHQLDIDDR					862.81	41.32	42.57	3
ALSPDMLATDLAY					690.87	42.86	32.82	2
EIENLILNDPDFQHENLNFLSR	890.81	54.66	24.07	3	890.82	43.10	27.44	3
GAPDTAALDELGLSK					729.43	31.64	41.03	2
IIPFLTDPK	522.33	36.86	27.3	2	522.32	32.46	38.4	2
GFIGPGVD(+21.98)VPAPDM(+15.99)STGER	647.32	34.55	25.11	3				
TVQSLE(+37.96)IDLDSMR	515.59	39.66	34.37	3				
T(+27.99)YFPHFDLSHGSAQVK	621.32	37.24	31.46	3				
AM(+15.99)IVEAYPK	519.28	14.48	25.26	2				
NGLGK					488.27	51.84	24.65	1
TVAGQDAVIVLLGTR					756.98	38.18	67.86	2
ENDPPIPVAK					540.32	18.81	36.16	2
AASFLLALEPELEAR	815.46	54.20	39.52	2	815.48	43.90	53.54	2
FNSSITYDR					551.78	18.25	45.84	2
VVDLMVHMASK(+21.98)					626.34	24.22	27.41	2
SIVE(+21.98)EIEDLVAR					697.89	47.39	28.12	2
VALLELGC(+57.02)GTGANFR					789.45	34.52	44.73	2
SESDPAYQLYQDAANSLR	676.66	49.47	55.88	3	1014.51	40.34	62.79	2
FIEKPEDLDK	411.90	15.25	30.32	3	411.91	17.89	33.28	3
LGLDFPNLPYLIDGAHR	637.70	62.89	61.39	3	637.70	43.81	75.35	3
PLPTLEHPIIPADYVAIK	663.06	44.30	35.33	3	663.08	37.72	28.98	3
TYFPHFD(+37.96)LSHGSAQVK	468.73	27.62	25.43	4				
SAPGVPTGVELLK					634.39	29.96	31.51	2

ILFDGIPLEK	572.85	41.87	46.81	2	572.87	36.00	45.98	2
Q(-17.03)AVSM(+15.99)FLGAVEEAK	739.87	53.24	31.57	2				
GAPGVIVNVSSQASQR	523.97	21.00	56.9	3	785.46	22.76	65.73	2
ELAEAQEDTILK					680.37	23.76	50.92	2
SEDSPAIEAIR					594.32	20.68	45.95	2
DGPLGFYHGLSSTLLR	578.33	47.12	58.07	3	578.32	38.31	30.38	3
LPSEGPQPAHVVVGDVR	586.34	20.59	77.93	3	586.34	22.60	66.74	3
NKPLFFADK	540.31	16.11	45.56	2				
VIALGLPVPR					517.84	33.22	28.65	2
AIDPSISWEDIK					687.38	33.45	51.93	2
SDYLNTFE(+21.98)FMDK					766.35	37.82	37.96	2
TSGTLISFIYPAQNPDLLNK	731.41	54.77	36.98	3				
ATVLLADINDFSTVNDVYK	700.05	52.31	51.37	3	1049.59	41.82	67.12	2
GKFPDATETDLQELVAK	621.35	36.31	46.29	3				
VPNVVVTR	442.29	14.12	22.75	2	442.29	16.99	26.18	2
VNTIPGFDGVVK	623.36	31.63	28.35	2	623.37	29.66	35.96	2
EPITVSSDQIAK					644.38	19.92	46.87	2
LQTVILDVTK	565.36	29.42	42.54	2	565.37	28.45	49.66	2
EIGNIISDAMK	595.82	33.98	50.7	2	595.83	31.09	46.7	2
E(+57.02)CPSVLDYK					555.80	21.22	30.49	2
D(+27.99)SLLGEPGLGFK	630.84	41.12	26.37	2				
PGGVFFFWEHMAEPR					602.98	41.84	50.02	3
TTPSYVAFTDTER	744.37	25.34	47.75	2	744.41	25.38	35.71	2
LGEHNIDVLEGNEQFINAA					1042.09	35.76	37.45	2
ILSISADIETIGEILK					858.03	48.66	55.85	2
LGPP(sub A)LATGNVVVMK					698.42	33.20	23.36	2
DFLIPIGK	451.79	40.71	25.32	2				
QEELC(+57.02)LAR					509.77	18.03	25.48	2
EITALAPSTMK	581.32	21.24	48.56	2	581.34	23.12	43.05	2
IANDSSINHEYLPILGLAEFR	791.44	53.55	46.33	3				
EVAFWNELLSR					682.39	41.95	53.18	2
TVLQNYLPR	552.33	29.44	43.86	2	552.34	28.18	42.94	2
EDDPNFFK					506.24	22.50	25.03	2
LQDVTDDHIR					404.55	14.67	46.73	3
VKYETELAMR					620.35	18.83	41.51	2
LQPFLEVTK	537.83	28.78	22.56	2				

IIGPGLVLSNPDRPC(+57.02)HQIDLFK					623.11	35.09	23.42	4
AGPWTPEAAVEHPEAVR					606.35	25.43	29.05	3
WSFEELGSLSR					655.85	37.57	39.47	2
PLTPDIYR	487.78	20.93	29.99	2	487.79	22.83	29.05	2
ITALDEFATK	554.82	27.58	36.58	2				
LHIIEVGTPPTGNQPFPK	649.04	32.26	23.87	3				
LLIQEAVWDETMR					802.44	39.27	48.22	2
NMASLGGHIVSR	414.56	15.03	41.97	3	621.35	18.81	58.02	2
EELFVTSK					476.78	20.16	36.92	2
TVVVKPAEQTPLTALHMGSLIK					584.10	32.95	34.53	4
ENCHC(+114.04)GESPVWEEASNSLLFVDIPAK					996.84	42.67	31.31	3
ISLVLGGDHSLAIGSISGH	611.68	42.01	49.19	3				
LLIEHQGISFLLAEMAMK					682.06	44.75	58.2	3
HLVHELR	452.27	12.19	22.99	2				
GEGMSQAATIC(+57.02)R					640.83	15.93	41.45	2
THLGLPVFNTVK	442.60	29.68	34.01	3	663.40	28.79	55.71	2
IMGTS(+27.99)PLQIDR	629.85	26.93	26.56	2				
LAAEDVIFIGPDTHAIQAMGDK	771.40	45.73	53.5	3	771.43	37.82	43.85	3
TWNDPSVQQDIK					715.90	22.21	52.27	2
NVVFSEDEMK					599.29	22.54	32.05	2
NDLSPTTVMSEGAQNIVAAMK	726.38	54.76	42.58	3				
WIPQND(+21.98)LLGHPK					720.41	26.48	23.42	2
GYFIQPTVFGDVQDGM(+15.99)TIAK	735.05	47.08	47.28	3	1102.10	38.71	42.1	2
TFEESFQK					508.26	17.75	43.84	2
DRLDM(+15.99)PYLDAVVHEIQR	522.29	41.16	41.88	4				
STPAITLENPDIK					699.93	26.72	48.7	2
SSWWAHVEMGPPDPILGVTEAFK					852.13	45.76	44	3
IQRPPEDSIQPYEK					567.33	18.47	36.77	3
ASAGR	461.28	21.19	22.75	1				
ALAAAGYDVEK					554.32	18.50	46.67	2
GGIVGM(+15.99)TLPIAR	600.86	27.95	52	2	600.86	26.89	51.56	2
DLGLAQD(+21.98)SATSTK					664.85	18.70	23.51	2
LPPGPTPLPIVGN	636.38	44.72	29.95	2	636.40	37.24	35.84	2
QQPEVLYNQIFINNEWHDAVSK					891.49	38.24	38.67	3
ELISN(+.98)ASDALDK					638.83	25.22	34.49	2
EVNLAVQD(+21.98)AK					554.81	17.18	27.56	2

KVETDHIVAAVGLEPNVELAK	558.83	32.95	26.47	4				
GITVVELAGLAPVPF	741.95	66.88	25.45	2	741.97	49.64	37.8	2
IQGSTIPINQAR	649.38	16.07	34.34	2	649.39	19.04	35.47	2
ESVNAAFE(+21.98)MTLAEGVK					859.44	36.42	39.71	2
DVIELTDDNFDK					712.35	30.90	50.63	2
SVAQFYGLLAR					612.84	35.26	23.26	2
EGVVEC(+57.02)SFVK					577.32	21.78	30.97	2
LHTVYQSVELPETHQM(+15.99)LR	550.05	23.26	34.48	4				
LEEVLTNK					473.29	16.26	36.84	2
DLAIQLGMLDPAEK	757.40	50.77	52.79	2	757.43	40.81	54.45	2
VNLAELFK	467.29	48.95	26.02	2	467.29	35.32	37.48	2
SLYYYIQQDTK	711.37	28.76	39.4	2				
SMAASGNLGHTPFIDEL	880.43	43.36	35.52	2	880.45	37.39	52.5	2
YGDVLQIR	482.28	22.61	43.91	2	482.29	24.24	45.22	2
EKDILILPLDLTDR	552.01	48.63	37.19	3	827.51	40.29	41.15	2
VAT(-18.01)VSLPR	412.77	16.11	25.95	2	412.77	18.89	36.1	2
SHGVLGLYR	501.29	15.86	32.94	2				
N(+109.05)IPWLFLTDPK					726.90	46.35	32.58	2
PQNDLLGHPK					559.82	25.48	34.11	2
KYVYIAELLAHK					483.29	28.23	43.78	3
WAEELIAAFK					589.34	39.38	41.38	2
EIEDIVEDITADYIR					897.51	47.09	62.88	2
GYSFTTTAER	566.78	15.44	61.8	2	566.79	18.56	47.56	2
TEDELLEITL(sub Q)K					652.40	35.09	27.25	2
IHVYTFVQK	567.82	17.98	28.89	2	567.83	20.52	44.44	2
GLLPQLLGVAPE(+21.98)K					678.92	37.84	25.28	2
ASSVVVSGTPIR	586.85	16.80	46.76	2	586.86	19.67	49.1	2
VPAIYGVDT(+27.99)R	559.80	24.63	24.83	2				
MIALSIDSVEDHLAWSK	639.01	48.15	27.24	3	639.03	39.65	37.93	3
PITTTFLQR					538.82	25.16	37.77	2
FALDGFFSSLR	630.34	55.73	66.42	2	630.34	43.75	63.26	2
Q(-17.03)GAETVQELLEVAK	749.41	57.17	27.27	2	749.42	44.71	37.52	2
FAALSELHC(+57.02)DK	645.82	23.17	25.83	2				
DSIINYFR	514.28	38.43	32.95	2	514.29	34.05	28.43	2
NFGLYNER					506.76	21.36	34.32	2
DTYVN(+.98)TIGHR					588.82	15.01	30.13	2

EEVPGFIPGLAILQVGNR	637.04	63.70	61.77	3	955.08	46.65	51.68	2
TSPLPPGPSPEIIIFK	846.99	46.94	31.98	2	847.02	39.22	33.73	2
MVGPIEEAVAK					572.35	23.55	34.48	2
SVVEFLQGYIGIPHGGFPEPLR					804.78	45.42	59.93	3
LLDVMEDGLK	566.82	34.21	35.49	2	566.84	30.97	35.32	2
FFESFGDLS(+27.99)TADAVMNNPK	706.68	50.39	36.41	3				
GNSLFFR	420.73	23.60	32.53	2	420.73	25.36	31.54	2
VLIGGDETPEGQR					685.87	18.90	61.17	2
VTIFAEGC(+57.02)HGHLAK					513.96	17.56	28.9	3
TLSDYNIQK	541.30	14.75	35.21	2	541.32	17.26	44.61	2
DIVHSGLAYTM(+15.99)ER	503.26	24.66	40.42	3				
N(+.98)HGQDYLVGNK					623.34	15.18	29.18	2
EGLEYIPLR	545.31	32.92	37.04	2				
SPEEGAETPVYLALLPSDAEGPHGEFISEK	1057.22	50.21	36.2	3	1057.26	40.30	36.79	3
AGVSL(sub V)YGIIK					510.82	30.76	27.66	2
STFVLDEFK	543.29	35.11	38.69	2	543.30	32.47	34.27	2
LALQQDLTSM(+15.99)APGLVIQAVR	714.08	50.52	26.69	3				
GQLTTDQVFPYPSVLNEDQTQFLK	923.49	55.54	45.18	3				
GDGPVQGTIHFEAK					728.42	20.42	49.69	2
VLLFGMGK					432.75	30.76	37.74	2
TGIEQGSNAGYLSESQTFGELAMTK	873.76	44.38	38.06	3				
DILILPLDLTDR	698.93	60.79	42.8	2	698.94	46.31	35.92	2
TVDN(+.98)FVALATGEK	683.36	41.16	31.91	2	683.37	34.98	30.08	2
DLGEELEALK					558.82	33.82	26.82	2
SIDTLGSAAAK					517.32	16.01	39.71	2
SLTIDYIR	490.78	26.66	31.38	2	490.79	26.93	40.38	2
EMLSLVESSHDFVESASSGNPVDFFPILK					1061.26	48.34	49.69	3
ANSMGLFLQK					554.81	27.23	27.33	2
AFHITNDEPIPFWTFLSR					731.06	45.64	57.6	3
LLDEVFFSEK	613.83	40.92	29.42	2				
IAVIGQSLFGQEVYC(+57.02)R	614.00	45.66	23.99	3	920.50	36.98	64.48	2
IPAQSVILLH					545.86	29.55	46.16	2
IDILVN(+.98)N(+.98)GGVSQR					693.91	27.54	31.58	2
LDSLTTSFGFPVGAATLVDEVGVDVAK	903.49	65.70	28.95	3				
NIQVDSPYEISR	710.88	25.79	61.2	2				
SVAEINQDLIQFSR					810.45	34.74	61.86	2

DPSGGPVSLDFVK	659.35	37.43	46.26	2				
VVNPLFEK	473.29	21.85	22.44	2				
LKDKEVAFWNELLSR					616.69	34.40	63.66	3
LHVDPE(+21.98)NFK					560.81	18.69	23.15	2
NAGVE(+21.98)GSLIVEK					619.36	21.81	31.81	2
LIFGK	577.37	16.35	27.2	1				
MDSTANEVEAVK					647.32	16.42	67.82	2
SEIDLLNIR	536.82	36.78	49.89	2	536.82	33.21	43.6	2
TLNDELEIIEGMK					752.94	38.98	58.27	2
GAAVDVDLER					522.78	19.94	54.68	2
ITAHLVHELR	594.87	12.10	58.88	2	594.87	15.30	55.03	2
AQYPIADLVK	559.32	30.82	24.18	2	559.34	29.73	33.56	2
HAHLDIEAFTMDR	519.27	26.65	33.73	3				
PSDHGVFVALVTPAPY	835.45	46.02	23.76	2				
LGPN(+.98)YLQIPVNC(+57.02)PYR	602.32	43.10	27.22	3	902.99	35.88	28.2	2
QDIAFAYQR					556.30	22.97	35.89	2
NAPAIIFIDELD(+21.98)AIAPK					917.03	48.81	32.25	2
NHVLSLSFPIR	428.26	32.71	26.36	3	641.87	30.54	45.61	2
AFVVLAPH					427.27	26.81	30.71	2
LLFYDIR					470.28	32.73	24.99	2
ALIAGGGAPEIELALR	775.97	44.46	37.8	2				
AFAM(+15.99)TNQILVEK	690.88	23.41	47.23	2	690.89	24.47	48.84	2
ASAFALQEQPVVNAVIDDATK	729.73	51.37	36.94	3				
VNVIASALAQIPQK(+21.98)					737.43	36.53	28.28	2
LSYVDFLVYDVLDM(+15.99)HR	667.68	62.50	56.22	3	667.70	47.62	29.12	3
VGPAEVENALAE(+21.98)HPAVAESAVVSSPDPVR					973.89	33.94	37.96	3
AMAFQLDFFAK					644.84	41.88	30.52	2
FLSDVYPDGFK	644.34	35.98	54.84	2	644.35	32.09	48.55	2
NVFNALFR					490.78	34.62	30.54	2
SLEEIYLFSLPIK	776.44	59.18	59.31	2				
ALDLAENEMPGLMH					770.91	34.99	35.73	2
LVDLDMVLK	523.32	41.22	27.6	2	523.33	35.83	32.1	2
EADIDGD(+21.98)GQVNYEEFVQMMTAK					838.07	44.86	31.79	3
FC(+57.02)ALNWEDQSAVVLATVDKEK					808.44	40.46	37.16	3
LVLHELK					426.29	15.93	31.85	2
EEQDTYALNSYTR					795.40	21.96	62.93	2

TIEEYAIC(+57.02)PDLHVDLGVLGK	748.08	51.01	41.35	3	748.09	40.87	40.25	3
LEYGNVDEAFK					642.86	26.35	45.97	2
SLLSELSDPVELR					729.42	40.78	46.49	2
VFQEFIK	455.77	23.92	29.67	2	455.78	25.47	32.82	2
FEELNM(+15.99)DLFR	665.33	36.27	37.35	2				
PISSVGVLGLGTM(+15.99)GR					730.40	49.71	51.25	2
LPVVLGHEGAGIVESI(+14.02)GEGVTTVRPGDK	700.91	41.72	40.55	4				
LSSDVLTLLIK	601.39	51.60	26.58	2				
HSTVFDNLPNPEDR					820.95	25.81	71.85	2
NIIVGFAR	445.28	25.97	25.39	2	445.29	26.26	29.56	2
IILDLISESPIK	670.91	49.40	29.72	2	670.93	40.51	53.57	2
DALNIETAIK					544.35	28.04	49.3	2
QPPDTFVDSFER					719.39	29.52	40.1	2
HLGGEVSC(+57.02)LVAGTK					714.40	22.12	54.77	2
AFEYIITAK	528.31	28.22	43.61	2				
MSVQPTVSLGGFEITPPVVLR					743.10	45.35	42.38	3
LVSGIAHPGPA	509.79	15.15	27.5	2	509.81	18.43	27.06	2
MLVQPNEIC(+57.02)VIQR					800.46	31.47	35.99	2
MVGIPAAFDMMLTGR					805.42	46.07	53.46	2
LMIEMDGTENK					640.84	23.79	38.07	2
GHEVTVLISSASTIPNSSK	643.03	27.27	37.28	3	643.04	26.73	39.54	3
FVPNLPK					407.77	22.01	24.24	2
PGGLLLGDEAPNFEANTTIGR	714.72	44.98	55.85	3	714.72	37.28	65.24	3
FDPVIILK	472.81	37.38	36.11	2	472.82	33.99	45.3	2
VAVVNQIAR	485.31	14.65	34.4	2	485.32	17.92	30.51	2
LNDGSQITYEK					634.34	15.79	27.81	2
YGIQM(+15.99)PSFSK	587.30	21.63	34.41	2				
YLQTLTTIAAEK	676.39	28.16	48.58	2				
IAEFTTNLMEEEEK					842.46	30.71	46.96	2
LGFHLPLEVAYQR	514.97	41.68	30.92	3				
ELIIGDR					408.25	19.45	23.64	2
SELDMLDIR					546.31	32.21	39.57	2
ASFPQGPIGGVNR	650.36	22.67	46.71	2	650.37	24.06	57.11	2
NTLLIAGLQAR	585.33	31.57	24.72	2				
LEQFVSLLMASIPVS(+21.98)					828.45	50.05	25.93	2
LFEENDINLTHIESR	610.66	33.96	37.79	3				

IDPSIMGGMIVR	644.85	40.27	36	2	644.87	34.73	61.85	2
EKLDSVIEFSIPDSLLIR					692.09	45.16	33.2	3
NVEILETPISK	621.87	29.41	33.46	2	621.90	28.20	35.92	2
AYAGDIANQLASDAVQIFGGN(+.98)GFNTEYPVEK	815.92	66.53	35.46	4	1087.60	49.28	25.79	3
DYGDLSFADNLDDSPFQIVK	753.70	61.86	61.68	3	1130.07	46.21	77.24	2
QEYD(-18.01)ESGPSIVHR					500.26	16.77	32.66	3
IGLFGGAGVGK	488.29	26.91	55.51	2	488.30	26.66	45.94	2
GVMLAVDAVIAELK	714.92	61.07	52.62	2	714.94	47.42	63.9	2
ILLAVN(+.98)GK					414.78	22.34	27.59	2
ELLWGYK					454.77	29.31	23.49	2
EVAWNLTSIDLVR					758.45	41.14	55.28	2
NFEEVAFDEK					614.30	25.79	43.88	2
GNDVLVIECNLR					672.90	35.96	39.77	2
SYSTTALVSSPK	620.84	16.89	36.33	2				
GLFIIDDK	460.77	33.11	25.38	2				
MPHQLFIGGTFVDAEGGK					635.35	32.40	68.93	3
YAELSEEDLK					598.80	21.47	42.6	2
LGDLYEEEMR					627.81	24.50	50.57	2
VIASAFAQIPQK	636.88	27.21	67.65	2	636.88	26.16	73.05	2
YYAGWADK					487.24	18.73	38.82	2
ISFNPDPK	459.25	16.67	28.69	2	459.26	19.52	28.15	2
ELFPIAAQVD(+21.98)K					626.86	31.79	23.22	2
GSFK(+28.03)YAWVLDK					671.37	29.18	24.59	2
LVVLGSGGVGK	493.32	19.75	36.18	2				
AIAELGIYPAVDPLDSTSR	663.37	49.48	58.76	3	994.56	40.20	51.5	2
EGIPALDNFLDK	666.35	47.14	45.84	2				
LLLPWLEAR					555.84	41.54	30.73	2
VEAVNMAEGIIHDTETK					619.69	32.37	33.34	3
VLVEPDAASGVAVMK	743.41	30.47	50.63	2	743.43	28.62	55.06	2
VKDFATVYVEAIK					494.97	29.69	37.23	3
TEQGPQVDETQFK					753.88	18.72	66.48	2
DILIVVGNE(+21.98)IIEAPMAWR					1031.09	48.86	38.4	2
TLADAEGDVFR					597.31	25.68	56.39	2
Q(-17.03)VPGGYTVINK	579.83	31.15	34.2	2				
PFVELDTSLPAGR	701.39	36.51	36.66	2	701.40	32.18	45.67	2
SPDFTNENPLETR					760.40	26.41	49.68	2

ILATPPEEDAPSVDITNIR	684.39	39.81	48.12	3				
LTPNVTDIVSIAR	699.91	41.01	33.66	2				
ETEC(+57.02)AIDYVEK					678.82	21.52	31.95	2
TNSTFNQVVLK					625.87	23.13	46.98	2
LLTIEFNPDYAAITQR	622.35	49.10	56.72	3	933.04	40.02	70.05	2
EFTEDSAIFEDGTVFK					917.98	37.57	53.81	2
VLDALDSIK	487.29	27.40	25.94	2	487.30	26.96	40.29	2
QEYFVVAATLQDVIR	584.67	55.16	34.55	3				
KGQDPYNILAPK	448.60	18.96	38.56	3	672.40	22.04	45.48	2
IDILVNN(+.98)GGVSQR	693.39	28.02	46.72	2	693.40	26.66	41.84	2
EPIPVLPTVHYNMGGIPTNYK					780.77	36.01	33.62	3
IQALLDKYNEEKPK					563.68	19.01	46.33	3
TIFAYFSGSK					560.79	32.06	26.89	2
IGGIGTVPVGR	513.32	20.76	47.99	2	513.33	22.69	47.61	2
WLIITNRPEEGLK					523.66	29.32	27.83	3
VGQQVEVELLGK	649.88	28.85	47.58	2	649.90	28.13	50.61	2
ADFC(+57.02)IIHYAGK	432.24	25.47	26.05	3				
EALMAHGFGNR	401.54	14.37	42.63	3	601.81	17.89	57.49	2
GSIVNVGSVVGLK	614.88	36.19	27.86	2				
DATNVGDEGGFAPN					682.31	23.59	25.59	2
YLYLASK	429.25	17.62	37.31	2	429.26	19.31	36.46	2
LASVAAGAFR	481.79	18.58	31.71	2				
FIVQHTNPFR	420.24	19.23	40.26	3	420.24	21.46	31.82	3
FLEEYLSATPQR					727.40	30.93	56.71	2
TALTYYLDITNPPR					819.46	37.27	60.37	2
FGNEVVPVTITVK	701.92	35.25	44.09	2	701.93	31.70	56.42	2
QLLEQFDK					510.81	23.40	29.44	2
GLGTDED(+21.98)TIIDIIAHR	587.65	48.65	36.82	3				
IVLDNSVFSEHR					472.60	25.94	47.25	3
VPITAVIAAK					491.83	24.60	26.59	2
VEVFLDGGVR	545.81	27.39	48.55	2	545.82	27.39	48.73	2
VSGTSASTPVFGGLLSLINEHR					748.08	43.76	48.83	3
AGMIFYR	429.23	22.33	25.52	2	429.23	23.47	44.86	2
ILGAD(+21.98)TSVDLEETGR					799.44	27.33	35.62	2
GSAPPGPVPEGLIR	673.89	28.04	33.14	2	673.90	27.55	52.56	2
GIVISFAK					417.76	26.42	30.89	2

GTSFEAAAASGGSASSEK					807.92	15.86	55.26	2
SNHEPYFGYSGAFK	535.27	23.84	28.01	3				
LALGDD(+21.98)SPALQEK					689.86	23.67	36.53	2
LTLEAEVSELR					630.39	31.64	46.14	2
TYFPHFDLSHGS(+27.99)AQVK	466.24	29.65	39.19	4				
SILAETEAMLK					603.35	36.10	34.88	2
FYPEDVSEELIQDITQR	694.70	62.13	25.09	3				
VYNVTQHAVGIIVNK	552.33	25.89	54.04	3				
PAAVAAENEEIGAHIK					540.66	19.40	37.37	3
TPDFESTGLYGAMPR	821.39	37.13	75.26	2	821.41	32.38	72.86	2
AVNTLNEALEF					610.86	38.21	23.32	2
SGILAAESIFNQLTNENLQSK	759.74	57.79	63.88	3	1139.16	45.28	74.5	2
DATNVGDEGGFAPNILENK					981.03	32.95	57.53	2
VVDALGN(+.98)AIDGK					586.84	22.44	42.03	2
FDLGQDVIDFTGH	732.35	51.64	41.14	2	732.37	41.03	43.67	2
LLLLGAGESGK	529.33	25.89	22.85	2	529.34	26.85	26.45	2
QDVSPFNVVAWHGNYTPYK					741.40	35.58	45.47	3
NDANPETHAFVTS(+1.00)PEIVTALAIAGTLK					927.87	46.32	24.43	3
LQQVGTVSELWIYPIK					937.55	41.46	66.49	2
FETFPVSLTK	584.83	34.89	36.21	2	584.84	31.82	54.98	2
N(+.98)FYTLTLPLGR	648.37	56.80	29.64	2	648.37	43.83	36.47	2
LVSGGNEATLGK	573.33	12.40	48.56	2	573.35	14.69	35.58	2
DHINLPGFSGENPLR	555.96	36.62	53.19	3	833.46	32.62	49.02	2
DLFNAIATGNYPSWTLY					973.50	49.89	43.33	2
FADQADNIAR					560.79	16.37	41.92	2
EVDIGIPDATGR					621.86	26.84	37.78	2
FEELGIK					418.26	21.74	28.19	2
SDD(+21.98)HVVN(+.98)GSLVTR					711.37	18.03	31.83	2
GEDILITGGR					515.80	21.84	42.43	2
EGADLLM(+15.99)VKPGTPYLDIVR	701.73	44.78	33.92	3				
KVETSDEEIN(+.98)DLHQR					605.31	13.74	23.4	3
VAVVAGYGDVGK	567.82	18.95	61.17	2	567.84	20.95	62.56	2
ISSVQSIVPALEIAN(+.98)AHR	636.04	40.63	53.21	3	636.05	35.11	51.82	3
IPVPILPGLPMN(+.98)NHGNYIVR					739.09	41.27	38.75	3
EAGFPPGVVNIVPGYGPTAGAAISSHMDVDK					1018.56	40.63	43.16	3
SIGVSN(+.98)FNHK	552.29	12.89	30.07	2	552.30	17.39	39.09	2

FVFSLVDAMN(+.98)GK	664.85	48.36	42.87	2	664.86	39.95	55.67	2
AISFVGSNQAGE(+21.98)YIFER	637.33	43.19	27.01	3				
GHDIVVLAPDASIYIK	571.01	38.56	32.08	3	571.02	33.91	37.24	3
LASQYGALVFVDESHATGFLGATGR	856.46	48.66	63.2	3	856.47	39.89	41.45	3
EFTPVLQADFQ(+.98)K	712.37	36.57	31.39	2				
ASPIR	543.32	42.10	23.4	1				
AVVPEMAK					422.77	16.51	23.82	2
VALDFEQEMATAASSSSLEK	705.36	46.00	36.55	3				
SIFEIATELNR	646.87	43.09	41.55	2	646.88	36.92	52.94	2
LVRPPVQIYGIEGR	533.00	30.06	61.78	3				
ADIHLVELLYYVEELDPSLLANFPLLK					1043.30	50.84	59.67	3
LGGVQFDIDLPNK	708.40	40.60	39.59	2				
NWPLYLSTK					561.32	31.10	32.05	2
FLEDYFDGNLK	680.83	42.08	48.47	2	680.85	35.52	51.7	2
WLLAAAGVEFEEK	731.91	45.66	42.69	2	731.92	38.54	58.58	2
LGLDFPNLPYLIDGTHK	638.37	61.93	47.3	3	638.37	43.46	69.96	3
GLLEEDFQK					539.80	24.83	45.85	2
S(+42.01)SSAMPD(+21.98)VPAPLTNLQFK	656.34	56.89	40.68	3	984.03	43.96	30.53	2
LGEHNIDVLEGNEQFINAAK(+14.02)					742.41	32.38	39.68	3
QAQYLGVSR	511.28	13.35	37.27	2				
VVNVSSFR	454.26	15.97	38.09	2	454.28	19.50	45.68	2
GGPVQVLEDQELK					706.42	28.29	48.92	2
SQIQEYVDYN(+.98)GGAGVQHIALK	764.40	33.87	42.76	3	764.42	30.17	35.93	3
LNLQEYQSK	561.80	16.00	34.44	2	561.81	18.95	30.24	2
LLEFLGR	424.27	29.77	28.47	2	424.28	28.51	32.34	2
FYEDLQHLLEITPK	582.66	49.90	26.37	3				
C(+39.99)MPTFQFFK					594.78	47.57	25.3	2
GLNSESITEETLK					710.88	24.13	67.54	2
AKIHDIVLVGGSTR					489.30	24.18	39.57	3
FLTADGTINK	540.31	17.61	32.28	2				
ISGLYSPYK	514.29	20.45	38.21	2	514.30	22.49	27.52	2
SIYSEFLK	493.78	33.24	29.21	2				
ASAELALGE(+21.98)NNEVLK					790.45	26.87	24.9	2
VVFQPEHISFEELLK	605.68	46.93	27.99	3	605.70	39.35	33.16	3
LGEHNIDVLEGNEQ(+.98)FINAAK	738.06	37.79	38.22	3				
TYLAALETLDN(+.98)GKPY	835.42	44.79	25.14	2	835.45	37.60	30.64	2

AGAGSATLSM(+15.99)AYAGAR	735.87	16.31	35.16	2				
SLQVANEPVLAFTQGSPER	681.71	40.30	57.16	3				
APAVTQHAPYFK	443.92	14.69	43.74	3				
ALASQLQDSLK	587.33	22.95	36.11	2				
AVD(+21.98)SLVPIGR					524.82	26.51	30.12	2
ASPLR	543.32	42.10	23.4	1				
GSFSEQGINEFLR	742.37	38.11	54.58	2	742.39	33.93	70.11	2
YFGDIISVGQR	627.84	35.20	42.18	2				
TKPADEEM(+15.99)LFIYSHYK	497.76	24.78	47.42	4				
GIVFEDVR					467.79	24.56	36.64	2
FVSELWK					454.77	27.71	35.7	2
FQSLGVAFYR	594.32	34.48	33.12	2				
ALQYVFFAER	622.34	46.75	32.91	2	622.36	34.65	57.92	2
V(sub M)CDFTEDQTAEFK					766.84	29.48	38.53	2
VAIIGAGISGLASIR					699.43	37.18	66.89	2
RNEVWLVK					522.33	19.34	25.4	2
HGFDVALNYK	582.31	21.17	57.15	2	582.32	23.30	75.19	2
SIFN(+.98)GFSVTLK	607.33	45.39	26.54	2	607.35	39.80	29.19	2
DQGYSTALIGK	576.81	21.61	41.01	2				
ALVALGAVDTALYAVGGK	563.67	53.98	68.03	3				
FVPPALEK					450.78	22.25	24.74	2
LDSVIEFSIPDSLLIR					909.05	47.72	64.06	2
M(+15.99)TSENLLNALK	625.34	28.67	36.56	2	625.34	28.76	42.96	2
VM(+15.99)VAEALDISR	610.33	26.72	31.64	2				
SVDAFDYDLQTGK					729.89	28.06	29.99	2
KFPVFNPATEEK	469.60	20.89	51.23	3	703.90	23.68	50.98	2
IVADKDYSVTANSK	504.28	12.15	39.37	3				
TPDFE(+21.98)STGLYGAMPR					832.41	32.50	37.1	2
TETIRPASIFTK	455.27	21.10	23.03	3	682.42	23.71	53.09	2
STGSFVGELMYK	659.85	34.31	49.59	2	659.85	31.85	71.01	2
SIVDYKPNLDLLEQQHQLIQEALIFDNK	831.97	59.02	29.48	4	832.00	45.33	27.82	4
Q(-17.03)LDEVPASIDALTEVVAAVK					1026.13	50.45	29.76	2
GILLFGTK	424.78	32.02	31.59	2				
INFTEDR					447.74	16.40	35.31	2
TVM(+4.02)GDHGDELFSVFGAPFLK					724.40	45.85	30.67	3
IM(+15.99)GTSPLQIDR	623.85	20.16	45.29	2	623.86	22.23	41.04	2

DFTPTD(+37.96)MAEFAAR	503.89	42.40	31.15	3				
FPVFNPATEEK	639.83	28.10	59.34	2	639.85	27.95	55.4	2
GLPLWPPFNHAEEYLEISLVPR					859.82	48.24	55.23	3
ANATEFGLASGVFTR	770.91	38.73	60.65	2	770.93	34.17	79.66	2
LEVNLQAM(+15.99)K	531.30	16.81	26.47	2				
QSVEDILK					466.29	23.76	30.71	2
ENLVEQHIQDIVVHYTFNK	582.33	47.72	27.28	4	776.11	39.68	51.96	3
LSDGVAVLK	451.28	17.35	39.94	2	451.29	20.39	46.56	2
PHIYGYAVK					524.30	16.52	25.05	2
TNAEIQAINK					551.31	14.90	46.9	2
IAIIYDSPVTNTK					717.93	28.18	55.36	2
N(+71.04)FPFLLEDPVLSAIAKK	658.37	42.68	24.88	3	658.40	36.78	25.5	3
QT(-18.01)PALVVLR	489.82	24.92	29.14	2				
ALAEALMGLGYR					632.86	35.48	66.47	2
SSVDWQIGQLR					644.86	30.04	55.77	2
FADIVPLGLPHM(+15.99)TSR	557.32	36.45	34.4	3	557.32	31.86	25.32	3
M(+15.99)TPTVLYDVQELR	790.92	37.14	24.16	2				
SLPFLTAPGSQLR					693.90	34.53	27.98	2
SQVPPGPTPPLQFHPQGTR					681.06	25.76	32.57	3
LMQYDIVIK					561.84	29.96	38.15	2
VAPEE(+21.98)HPVLLTEAPLNPK	659.37	29.20	35.86	3				
IIADIFQYTAK	641.87	41.00	44.44	2	641.87	34.49	52.8	2
DGASEEEINLSK					646.32	18.71	60.02	2
VIENLHAAAYR	419.58	13.48	32.91	3				
Q(-17.03)YSVGDAPDYDR					684.82	25.23	32.5	2
ETPAITINR	507.80	16.10	44.63	2	507.82	18.75	46.42	2
IAGLTAPPGR	476.80	16.20	33.89	2				
SWHSYDSLFR					433.23	27.74	49.15	3
FDGGEEVLISGEFNSLR					935.01	38.51	46.6	2
YDLDFK					400.72	23.62	32.89	2
VQQE(+21.98)IDEVIGQVR					767.95	29.52	31.83	2
DAVLLVFANK	545.33	40.77	42.75	2	545.34	35.58	47.63	2
VMTIAPGLFGTPLLTTLPDK					1043.09	46.81	66.24	2
NPLFQPC(+57.02)PSLNK	707.87	26.98	46.64	2	707.90	26.78	36.65	2
VLVLYDEIK	546.33	32.74	27.99	2	546.34	30.98	29.36	2
LAIDQIDK					458.29	21.07	35.79	2

NLDLDGIIAEVK	650.37	49.31	52.14	2	650.39	40.46	58.43	2
SLKDEDVLQK					587.83	15.42	34.96	2
LVGQGATAVLLH(sub D)LPNSDGETQAK	773.75	43.40	35.43	3				
VATILATGGNR	536.82	14.73	49.67	2	536.82	17.75	36.38	2
VMDPLSFGPILK					658.90	40.88	31.52	2
IFDTSLTR	476.77	21.51	34.89	2	476.78	22.89	26.32	2
VYNYNHLMPTR					469.91	21.10	36.24	3
NQAPPGLYTK	544.80	13.00	33.07	2				
EFTPVLQAD(+21.98)FQK					722.88	31.57	45.7	2
AIDYVIFATGYSYAYPFLDDSIIK					915.83	49.00	62.68	3
TILDELVTR	530.31	38.50	46.93	2				
FIDTSQFILNR					677.37	33.68	59.23	2
VTFELVYEELLAR					791.47	46.32	54.56	2
LAELEAALR	493.30	25.05	48.34	2	493.31	25.85	43.99	2
AIVAIENPADVSVISSR	871.00	39.45	62.5	2				
DPEEPVLLK					520.30	24.20	46.2	2
HN(+.98)QLPLVIEFTEQTAPK	656.02	47.57	35.07	3				
ASGTEVIQLFPEK	709.89	36.02	47.81	2	709.91	32.75	59.24	2
VVFDDTYDR					565.29	21.30	45.53	2
APPTYDALVQMEYLDMVVNETLR					890.15	50.05	47.35	3
HFVGYPTN(+.98)SDFELK					827.92	29.57	48.27	2
DAEEVISQTIDTITDMIK	674.70	67.63	24.82	3				
TILDELVSR	523.30	39.32	34.72	2				
LDPSLLANFPLLK					720.93	46.13	35.01	2
M(+15.99)VSDLIASGIQPLQNLSVLK					1071.61	44.73	56.23	2
DLGE(+21.98)AALNEYLR					693.36	35.65	34.87	2
LN(+.98)GTDPEDVIR					615.32	23.92	38.82	2
LIDGILTE(+21.98)QK					576.34	26.80	33.94	2
QSDLDLLAK					501.80	24.76	32.96	2
NSLPK	558.32	36.59	22.6	1				
LAVLITNSNVR	600.37	23.97	39.88	2	600.38	24.44	40.73	2
LQVEHPVTEC(+57.02)ITGLDLVQEMIR	860.81	54.41	38.84	3	860.82	43.73	46.48	3
MFVLDEADEMLSR	778.38	51.35	34.05	2	778.40	41.49	61.81	2
GVFPVLYR	475.78	33.78	31.29	2				
DYALSPEDYALK					692.89	31.43	33.34	2
VLRPGGVFF					496.30	32.14	24.2	2

AAAGLGIHTIK					526.34	16.82	52.87	2
NVLIVEDIIDTGK	714.92	46.98	53.29	2	714.92	39.35	45.51	2
IFIN(+.98)NEWHSSVSGK					540.29	26.03	34.92	3
DISEASVFDAYVLPK					827.46	41.74	66.06	2
TFE(+21.98)SLLDFSR					618.83	38.18	33.25	2
IPEVFLTK	473.80	28.12	30.58	2	473.81	28.14	37.08	2
IGPALSC(+57.02)GNTVVVKPAEQTPLTALHMGSLIK					801.45	37.01	28.04	4
NLDIERPTYTNLNR	573.65	23.50	39.23	3				
HVFGESDELIGQK					729.91	22.07	45.69	2
VTLEYRPVIDR	454.28	22.51	32.32	3				
YFAGTM(+15.99)AEETAPAVLER	624.65	30.64	48.52	3	936.51	28.35	55.34	2
LTLSALLDGK	515.82	40.22	49.47	2	515.84	35.64	48.48	2
AQFGSDLDAATQQLLSR	910.98	45.60	25.09	2	911.00	37.77	36.97	2
NILLTNEQLEAAR	742.93	29.30	62.64	2	742.94	28.27	58.44	2
LLQVDFEDPRPSFNQLR	692.05	41.02	23.8	3				
AALQELLSK	486.81	26.72	40.75	2	486.81	27.14	45.61	2
MEFGTAGLR					491.27	23.80	37.53	2
DALLFPSFIH	580.33	55.69	31.84	2	580.34	44.25	27.62	2
ETPIGLVPK	477.29	22.19	35.59	2	477.30	24.22	43.54	2
DGYAQILR	468.26	22.36	50.09	2	468.27	23.62	43.77	2
GAGAFGYFEVTH(+28.03)DITR	590.31	39.11	30.17	3				
PINYNTEHVGTVLR					538.31	21.95	43.41	3
FYTEDGNWH(sub D)LVGNNTPIFFIR					847.45	47.80	45.7	3
LLVVYPWTQR(+31.99)					653.88	34.76	26.29	2
MGAAK	477.25	15.27	25.77	1				
ALMGLYR					412.24	23.70	40.92	2
IFINNE(+21.98)WHSSVSGK					820.43	24.02	34.61	2
GVVISFDAR	482.28	25.63	32.83	2				
TAMK(+50.02)YNLGLDLR	482.28	30.72	23.59	3				
VAGGPQMIQLSLDGTR					821.97	33.17	67.15	2
ESPLISAWPEELIAR					856.00	43.74	44.98	2
LVLDQLR	428.78	24.14	24.38	2				
FEELNADLFR	627.33	38.68	48.34	2	627.33	34.19	51.56	2
SIDDQFLLGDALLVHPVSDSEAR	833.12	53.48	37.89	3	833.13	43.14	45.05	3
LFYEDIK	464.26	24.81	22.78	2				
LC(+57.02)EVEEGDKEDVDK					555.60	13.48	33.6	3

AEALLFEVK	510.31	32.13	36.38	2				
AIFFTSGTTGFPK	687.37	37.60	27.65	2	687.37	33.30	64.91	2
VLATVTKPVGGDK	428.93	12.02	41.74	3	642.91	14.32	46.29	2
HIYYITGETK					612.85	17.11	58.86	2
PTMADELYDQDYPIHSVEDR					798.75	31.96	46.32	3
TGPAASTLSDGAAAEALVESSEVAVIGF					874.14	49.42	31.2	3
ALLSLVPVQK	534.35	34.29	32.76	2				
IAYFGGDPGR	526.77	19.63	31.99	2	526.79	21.73	40.42	2
FYTEDGNWDLVGNNTPIFF					1125.06	49.52	47.39	2
NAILTQWDR					558.82	26.17	43.78	2
ILGLLDAHLK	546.86	32.70	24	2				
VVLETDTLDEAIK					723.44	30.50	36.88	2
NSNVGLIQL	479.28	40.11	26.23	2				
IAPLEEGTLPFNLAEAQR	657.04	48.82	59.96	3	985.07	40.04	62.47	2
FSISWSR					441.74	28.19	27.38	2
EIE(+21.98)YEVVR					529.77	20.97	30.61	2
GISEE(+21.98)TTTGVHNLYK					835.94	20.65	35.82	2
GFQQILAGEYDHLPEQAFYMVGPIEEAVAK					1117.62	48.54	36.91	3
QIGVEHVVVYVNK	495.30	22.43	29.34	3				
LQDEIQNMK					559.82	17.32	39.08	2
TSATWLALSR					553.32	28.14	54.37	2
Q(-17.03)TPALVALR	476.29	36.65	36.84	2				
DMDLVE(+21.98)VNEAFAPQYLAVEK					1152.09	44.41	40.37	2
SPLIIFSDC(+57.02)DMK					713.37	35.05	39.01	2
EDLIAYLK	482.78	35.78	24.84	2	482.79	32.45	32.14	2
HLAVEWGPQNIR					473.95	26.07	59.71	3
LGEHNIDVLEGNEQF					857.46	32.54	39.06	2
LLVPYLMEAVR					652.40	40.97	35.98	2
NLKPVVAEFHGTK	480.62	13.02	37.11	3	480.63	17.32	53.49	3
VYNEAGVTFT	550.78	28.28	50.89	2	550.81	26.95	43	2
TKPADEEMLFIYSHYK					658.02	30.42	55.87	3
SVLHSGYFHPLLR					509.29	25.15	31.13	3
ETLMD(+21.98)LSTK					530.29	24.07	33.74	2
LLISEIAVSASEFMFEETR					724.74	49.70	73.26	3
HSVNNPYSQFQK	483.59	12.62	31.19	3	724.88	15.77	64.61	2
GQFSTDELVAEVEK					776.42	32.82	51.16	2

VFDAIMNFK					542.79	33.40	50.16	2
WVINPSGGLISK					635.87	31.99	53.73	2
GISEETTTGVHNLYK	550.30	17.91	45.66	3	824.95	20.47	71.54	2
VSPETVDSVVVGNVM					766.44	37.72	52.39	2
IGNSTAIQELFK	660.87	36.24	41.93	2	660.89	33.40	23.25	2
IASLEVENQSLR					679.91	23.58	43.9	2
Q(-17.03)LELILNKPGLK	674.92	45.51	24.34	2	674.93	37.17	30.14	2
MTNYD(+21.98)VEHTIK					686.86	17.66	32.37	2
PTAEFQDR	482.24	29.31	26.9	2	482.25	28.61	30.52	2
VLGTSVE(+28.03)SIMATEDR	818.41	35.57	26.82	2				
YPVNSINVLK					573.84	26.69	32.79	2
LLIEMEDWK					588.83	35.36	43.13	2
FGFYEVFK	518.77	50.25	37.07	2				
SVDDFHLGTK					559.81	19.10	47.67	2
ALMLQGVDLLADAVAVTM(+15.99)GPK					710.41	48.41	56.4	3
NVPNLHVMK					526.31	17.67	25.94	2
NIEVPFKPAR					585.86	22.42	38.49	2
DGWQIEEADDWLR					816.92	41.05	44.01	2
VVEAVPVLLSIPGLAAR	568.70	58.86	55.78	3	852.53	45.52	65.17	2
IKDPDAAKPEDWDDR					590.97	16.92	49.18	3
SAAFEYIITAK	607.34	33.15	43.19	2	607.36	31.12	51.57	2
TVVDEMSVAK					539.80	19.86	34.49	2
DIVHSGLAYTMER	497.93	29.91	57.13	3	746.40	28.36	64.48	2
LQEEIDV(sub A)TFPNK					716.92	28.88	25.63	2
ESVN(+.98)AAFEMTLAEGVK					848.96	35.43	29.72	2
EFLQC(+57.02)VEK					526.79	21.00	26.68	2
AVEHLDDLPGALSE(+14.02)LSD(+14.02)LHAHK	599.58	41.80	29.26	4				
SSVAVPYVIVPLK	686.43	43.30	37.01	2	686.43	36.41	41.1	2
C(+39.99)LEEVEDLIVK	665.36	66.29	34.79	2				
GGIADALLYR	524.81	34.00	37.1	2	524.82	31.32	36.44	2
QPYFGAVVGR					547.32	25.11	40.89	2
DIFAMDDK					477.73	26.18	33.54	2
ISIPLDSNLRPEK					494.64	26.95	38.72	3
IFEGTNDILR	589.32	29.08	50.32	2	589.34	28.07	41.78	2
ILEFIGR	424.27	29.77	28.47	2	424.28	28.51	32.34	2
TAVDSGIALLTNF	661.37	62.35	38.04	2	661.38	47.24	32.22	2

SYAYPFLDDSIIK					766.43	39.56	33.71	2
VLGKPTTLC(+57.02)EIMGK					516.30	26.56	43.13	3
KPEEVDDEVFYSPR					570.63	22.89	36.04	3
HGSLGFLPR	492.29	18.68	33.53	2	492.30	20.72	42.26	2
LLPALASVPVLPSES					746.97	44.77	47.6	2
C(+39.99)EFQDAYVLLSEK	792.87	58.82	42.18	2	792.90	45.39	42.44	2
NPFGNAGLLLGEAGK	729.40	40.52	58.65	2	729.42	35.51	72.39	2
LQNLQLQPGK	569.84	17.03	47.04	2				
VSVAEHSLHLSK					436.26	15.31	31.16	3
HIMGQNVADYMR					717.88	23.16	55.86	2
FMEQVIFK					521.30	30.43	39.93	2
DDGSWE(+21.98)VIEGYR					724.36	32.66	26.98	2
IDSGSEVIVGVNK					658.90	21.78	55.75	2
VLVLYDELK	546.33	32.74	27.99	2	546.34	30.98	29.36	2
ANATEFGLASGVF	642.33	50.62	30.19	2				
VP(sub A)TVSLPR					434.79	25.34	23.13	2
LVDHVFDEQVIDSLTVK	653.03	44.78	37.73	3				
TVTAMDVVYALK	655.87	42.76	64.87	2	655.88	36.76	61.2	2
YVANIFPHK	544.82	18.72	26.77	2				
GM(+15.99)SLNLEPD(+21.98)NVGVVVFGNDK	714.70	46.73	28.28	3				
DLMLWMEDVIR					710.89	48.94	40.93	2
AAVTAFWGK					475.77	26.00	56.9	2
ELIDLVLDR	543.33	43.72	47.78	2	543.33	37.00	42.31	2
QVVEAVPVLLSIPGLAAK	602.05	58.90	41.99	3	902.57	45.35	70.11	2
TQADLDSLVR					559.33	23.94	40.64	2
YVLGNPLTPGVSQGPQIDK	661.71	36.95	71.4	3	992.08	32.50	48.58	2
TLGGIPAPIYFGALIDR	887.51	60.13	38.21	2				
SDIGEVILVGGMTR					723.92	35.73	63.83	2
ADMWLFR					469.75	34.79	48.09	2
ETYLAILMDR	612.84	45.98	47.85	2	612.85	38.98	56.91	2
LSPAQLGDIC(+57.02)VGN	672.35	39.92	29.36	2				
ITDLYTDLR	555.30	26.98	38.62	2	555.32	26.94	37.54	2
FVTEVIK	418.26	18.00	24.37	2	418.27	20.78	24.79	2
AERPDGLILGM(+15.99)GGQTALNC(+57.02)GVELFR	897.47	48.06	49.3	3				
IAPSFAVESIE(+21.98)DALK					806.45	43.15	28.22	2
Q(-17.03)AVSMFLGAVEEAK					731.90	46.80	49.72	2

KFSLDQLITHVLPLEK					627.71	42.04	44.81	3
RDFTPAELR					552.83	18.00	32.02	2
RPEFQALR					508.81	15.60	36.24	2
VLDSFSH(sub N)GMK	560.76	21.35	26.36	2	560.77	22.32	32.1	2
LGLDFPNLPY	574.82	60.29	33.59	2				
DQEGQD(+21.98)VLLFIDNIFR	648.68	67.19	40.71	3				
TPGPGAQSALR					527.82	13.85	27.43	2
VHSFPTLK	464.78	13.06	40.97	2	464.79	16.44	45.74	2
EVAAFAQFGSDLDAATQQLLSR	780.08	64.32	76.84	3	780.10	48.42	65.23	3
GYSFTT(+27.99)TAER	580.78	18.45	25.23	2				
YGNIDAAHLK					551.31	15.99	56.13	2
GVIINTASVAAFEGQVGQAAYSASK	813.77	50.09	77.64	3	813.79	40.48	75.26	3
NFYTLTLPLGR					647.87	38.45	55.74	2
LMLVAMANDLK					609.86	35.51	50.24	2
DFSALESQLQDTQELLQEENR					831.80	45.56	60.13	3
AALLELWELR					607.38	42.89	51.01	2
MAQHNVLLHLK					435.26	16.82	41.26	3
EAALGAGFSDK					533.29	18.87	34.48	2
AANQYINWLHENL					793.43	38.67	44.48	2
TGAIVDVPVGEELLGR	812.97	45.60	58.43	2	812.98	38.06	50.87	2
AEVWETFQR					583.31	27.76	48.56	2
IPNIYAIGDVVAGPMLAHK					660.39	41.48	73.36	3
IDIIPNPQER	597.84	26.47	34.74	2				
HEVININLK					540.34	21.23	52.83	2
VMVDANEVPIQK	671.87	23.22	50.16	2	671.91	23.39	53.2	2
VW(+31.99)PHGDYPLIPVGK	537.30	46.41	31.88	3	537.30	31.52	25.4	3
HGSIIYHPSILPR	497.30	21.36	62.4	3	497.29	22.28	68.82	3
SATALGYLAHK	566.32	15.33	28.03	2				
A(+42.01)ALTQNPQFK	580.33	28.02	25.14	2	580.33	26.76	30.99	2
AGM(+15.99)IFYR	437.23	15.02	25.84	2	437.23	17.10	23.99	2
TFDSIVMDPK	576.80	27.54	60.13	2	576.83	26.90	50.31	2
ITC(+57.02)LDPNPHFEK					490.93	20.82	39.49	3
TLDNDIMLIK					588.34	31.95	29.16	2
FSLTTLR	419.26	26.89	29.19	2	419.26	26.04	31.53	2
AQDEGLLSD(+21.98)VVPFK					770.42	39.19	28.98	2
SPVQVAQDILAALGK					755.44	48.06	72.74	2

EIDVYVSAQFPK	698.37	36.17	42.85	2				
FNASQLITQR	589.33	26.32	43.17	2	589.35	26.33	52.68	2
DTTLPALGR	472.27	22.14	29.03	2	472.28	23.04	34.94	2
ELHEQLVTQDK					670.37	14.52	39.37	2
ESMLDAAFTLAAEISSK					892.49	49.58	75.57	2
VSTMEIIK	460.77	18.29	26.95	2				
TIVLYDTNLPDVSAK	824.96	39.51	53.98	2				
EFGASEC(+57.02)INPQDFSK					864.94	28.55	31.89	2
IIYIVHDEVK	410.25	18.25	24.79	3				
LQAFQALR	473.79	21.88	29.92	2	473.79	23.93	28.2	2
LEVGTETIIDK					609.37	25.19	43.11	2
TFGPVPEFSGATAEK					769.41	29.82	37.74	2
SVAGEIVLITGAGH	662.37	40.55	28.51	2				
Q(-17.03)EATLVVGGDGR					592.84	25.48	23.16	2
MMGSEFDFEEMK					740.85	33.51	29.36	2
ILLM(+15.99)DLNK	488.29	22.46	24.79	2				
NILYMASE(+21.98)TIK					652.86	31.64	34.05	2
TGPAASTLSH(sub D)GAAAEALVESSEVAVIGFFK					973.20	49.88	33.78	3
QVSIILLGATGDLAR					763.98	38.92	40.41	2
GGDKETEC(+57.02)AIDYVEK					571.95	20.71	26.66	3
LGQYTSPVAK					532.32	16.22	30.69	2
RLPEAIEEVK					592.37	19.45	36.82	2
DVADIESILALNPR	763.43	56.48	41.31	2				
IGLFADIELSR	617.36	46.17	40.9	2				
AISESGVALIPGF(sub L)VK					744.46	39.39	38.7	2
LDAVVISTNYR	625.86	27.23	46.75	2				
MC(+57.02)HPSIDGFTSR					469.90	21.26	42.28	3
NPNAVLTLVDDDLAQEYQK	716.05	51.28	48.35	3				
IDATQVEVNPFGETPEGQVVC(+57.02)FDAK					917.48	40.10	41.01	3
GILIGIQQSFRPQ					728.92	33.92	47.9	2
WIPQNDLLGHPK	473.27	25.73	40.24	3	473.28	26.41	44.8	3
FVMQEEFSR	586.79	24.96	49.3	2	586.80	25.62	51.05	2
Q(-17.03)LAVLGAGLMGAGIAQVSVDK					991.06	49.09	43.05	2
LDPGLIMEQVK					621.87	33.49	38.46	2
EFPTVPLVK	515.32	33.54	37.77	2	515.32	31.28	37.02	2
VLVTVDPEFQTR	702.39	31.67	43.73	2				

LTYVDFLVYDVLDMHR	667.02	65.18	58.42	3	667.04	48.76	51.24	3
ELEEFVQSSGK					626.85	21.29	51.53	2
M(+15.99)LALGITGPEGHELSRPEAVEAEATLR	716.64	36.13	37.74	4				
FIIPQIVK					479.31	33.66	27.14	2
ELSGVDLVIEAVYED(+21.98)MNLK					1080.07	50.02	37.86	2
AFTGFIVEADTPGVQIGR	626.69	46.37	74.02	3	939.54	38.20	65.67	2
FLASQVPFPSR	624.85	32.33	34.76	2				
EKELGLYLNTSGQAK	550.98	20.57	22.84	3				
GGAIALGHPLAGSGSR	474.28	15.42	39.6	3	710.91	18.94	47.81	2
NSIQDIIGALFK					659.87	48.81	59.68	2
LVEIAQVPK	498.82	20.99	36.82	2	498.83	23.00	43.04	2
IFPVETVVEEAIQC(+209.02)AEK					705.37	48.93	24.94	3
QFAPEYEK					506.26	16.25	24.61	2
AVSNVIASLTF	561.33	56.78	28.17	2				
ATAIELGYLTAEQFDEWVKPK					803.79	46.61	36.86	3
IAIDTGYR	454.75	16.70	37.71	2	454.76	19.39	36.88	2
ILLPGMVSR					493.30	28.80	33.27	2
DFNN(+.98)AVSQVK					561.80	18.84	35.11	2
PTANVIPSGVEWIK					755.95	34.88	33.94	2
EEIFGPVLAVYVYPDEEYKETLR	920.48	55.20	27.8	3				
IVVNLTGR					436.28	20.94	32.97	2
VELLPALTDNYMYLLIDEDTK	823.78	66.32	36.84	3	1235.20	49.15	56.02	2
YNELLLGVGHPEYPFVEEY	756.72	55.44	39.11	3	1134.59	44.02	47.37	2
GNFD(+21.98)EALAAHK					597.82	16.93	29.29	2
IITHPNFN(+.98)GNTLDNDIMLIK	762.09	45.93	26.23	3	762.10	38.35	32.95	3
EKDILAAIGADLSK	481.96	40.35	32.72	3	722.44	35.46	60.84	2
AALAGGTTM(+15.99)IMDFAIPHK	621.00	51.59	28.81	3				
LLQDFFN(+.98)GK	541.80	36.83	33.11	2	541.81	32.64	33.11	2
SLGSMVSEIPEQK	702.87	28.78	41.14	2	702.91	27.44	41.02	2
APNSPH(sub D)MLEIEFK					756.91	33.71	27.99	2
AMTNQILVEK	573.83	17.87	37.1	2	573.83	20.96	36.12	2
PQDYEKPIEEVLK					529.98	27.81	33.92	3
SFMGLGQAAWK					598.31	32.04	47.81	2
YGGAEVD(+21.98)ELGK					580.28	18.68	38.53	2
LQVTNVLSQPLTQATVK	614.04	39.85	35.61	3	920.55	33.71	47.81	2
SSQVSDGAAAILLAR	729.92	34.14	45.49	2				

VPAIYGVDTR	545.82	21.92	54.22	2	545.82	23.18	57.28	2
DFIDAYLQE(+21.98)IEK					753.39	45.90	35.69	2
IQYHEHVTEGFENMPAAF	707.34	35.33	28.49	3				
VVAHYPVEVR					584.85	17.31	44.61	2
A(+42.01)ASC(+57.02)ILLHTGQK					670.88	26.66	30.72	2
YFQHLLGK					503.29	20.32	34.03	2
NEFDWR					433.72	22.26	31.67	2
DNLLDDLQR					551.30	31.01	32.79	2
LFVE(+21.98)ESIYDEFVR					834.44	42.61	38.48	2
LTANAFLAQR					552.83	24.67	52.96	2
STVDFFTK	472.75	24.29	26.65	2				
GHSLIEAFDTWR					716.39	34.71	48.88	2
FDLSHGSAQVK	594.81	13.53	38.57	2	594.83	16.53	53.91	2
TVDLSSHLAK					535.82	15.88	43.52	2
VMTIAPGLFGTPL					658.88	47.56	25.32	2
AAPEMVSLLK	529.81	30.16	32.58	2	529.83	29.45	43.65	2
VLAAC(+57.02)LTEK					502.80	18.50	28.79	2
FANTVGLVIER	609.86	30.04	48.33	2	609.88	29.03	59.38	2
AVNTLNE(+21.98)ALEFAK	721.38	36.78	33.17	2	721.40	33.05	47.58	2
AITAENLAVK	515.31	17.05	33.18	2	515.32	20.21	39.93	2
VMIGEHIDEK					585.82	16.17	29.49	2
LTFVDFLVYDVLDIHR	655.71	67.11	28	3	655.71	49.76	64.34	3
DLTDYLM(+15.99)K	507.76	30.89	27.23	2	507.77	28.16	37.15	2
EFTGLGNC(+57.02)ITK	620.32	23.12	25.64	2				
SIEPYLK					425.26	19.74	26.77	2
IIC(+57.02)QGFTGK	512.28	13.91	33.77	2	512.30	16.70	32.23	2
SIPYFQQTGVR					648.37	26.66	29.52	2
YLPNPALQR	536.31	18.12	31.24	2	536.33	20.98	35.79	2
VIQYLAH					422.25	18.93	28.09	2
VVELLLPIR	526.35	43.90	33.93	2	526.36	36.92	32.4	2
IDGNLVIR	450.27	19.14	34.08	2	450.29	21.42	28.37	2
SPAGLQVLNDYLADK					802.46	37.70	65.44	2
IIQESGAEILR	614.87	21.76	40.07	2				
AQIHDLVLVGGSTR	489.29	22.29	30.1	3				
SNVSDAVAQSAR					602.84	14.35	50	2
NLVTETVMQMLVDVAK					895.99	49.65	75.81	2

TEISLYLTSK	577.84	29.19	32.7	2				
SSFFVN(+.98)GLTLGGQK					728.41	35.78	51.45	2
EKQDTFALASQQK					747.44	15.76	65.69	2
IGIVGLPNVGK	533.85	33.61	32.54	2				
HQSLGGQYGVQGFPTIK	606.34	29.51	54.11	3	606.34	27.14	60.8	3
FAD(+21.98)GDVDAVLTR					650.85	28.02	29	2
VTDEVVDYISGGGFSNVFPR	720.04	55.26	40.11	3				
IWHHTFYN(+.98)ELR					506.28	22.71	42.33	3
AAQKPDVLTTGGGNPVGDK	609.01	14.24	67.31	3	609.01	17.57	66.69	3
WASVLLR					422.76	27.11	26.95	2
LFSNAYLMDLGGC(+57.02)IK					851.45	39.74	55.66	2
EAFNMIDQNR					619.33	22.72	44.07	2
TALLDAAGVASLLTTAE(+21.98)VVVTEIPK					835.50	51.25	35.56	3
KVFIED(+21.98)ISK					550.83	20.05	24.96	2
SIPTSTVFYPSDGVATEK					950.01	30.33	54.29	2
YQIPALAQAGFR	667.89	38.27	27.87	2	667.89	33.18	39.12	2
PLSSIHLR					461.78	22.49	26.89	2
TFAPEEISAMVLTK	768.93	46.85	42.95	2	768.94	39.07	52.4	2
GPDELHYTYLDTFGR	595.29	35.68	47.72	3				
THLSLSHNPELK	459.26	11.98	45.52	3	459.27	15.04	26.81	3
LIGEYGLR	460.78	21.62	27.03	2	460.79	23.38	27.71	2
GILEEELESIR					644.39	36.55	51	2
VYFDLR	406.73	24.94	39.3	2				
DFTPTDM(+15.99)AEFAAR	744.35	28.37	37.22	2	744.38	26.13	31.74	2
TLIEFLFR	519.81	53.36	30.7	2	519.81	43.06	45.16	2
PVLVLSQNTK	549.83	18.05	25.23	2				
KESYSVYVYK	422.57	14.80	33.96	3	633.35	18.40	53.59	2
LLAALGGNSSPSAK	643.37	19.02	31.19	2				
LFGYQPTIYYPK					745.40	34.49	59.35	2
VGIPVTDEN(+.98)GNR					636.33	19.35	43.57	2
KIEFVLDLPK	601.37	35.75	28.22	2	601.39	33.10	49.92	2
IYIDDGLISLVVK	724.43	56.20	66.2	2	724.45	44.60	53.66	2
WDAWNALGSLSK					674.36	38.84	60.18	2
VLEMSSEDLEK					640.33	22.47	37.74	2
AAVAELTAMVDADAR	501.94	38.88	24.68	3				
MVGFDMSK					457.73	23.30	38.84	2

LADLLEQSLEE(+21.98)LAQAESK					1005.05	48.29	33.75	2
NSLFPGTWYLER					741.90	39.49	41.9	2
N(+.98)DGSLMFQQVPMVEIDGMK					1070.54	45.77	25.87	2
SLFPGTWYLER					684.87	39.05	32.78	2
GIFHPVIISPDR	450.93	27.42	61.35	3	675.91	27.88	56.96	2
FAGGSLE(+21.98)MLQQMISK					831.43	41.73	24.84	2
IINEPTAAALAYGLDK	830.48	38.47	51.98	2	830.49	33.63	49.75	2
SAPLLLPGR	462.30	23.54	34.74	2	462.30	24.92	40.62	2
YYESLAQLEEQFEAGR	644.99	50.52	68.45	3	967.00	41.37	42.04	2
FHYGFN(+.98)SNYLK	464.24	29.93	28.69	3	695.86	28.54	47.05	2
LLEPVLLLGK	547.88	46.27	39.71	2	547.88	38.36	36.92	2
VNIN(+.98)GGAVSLGHPIGMSGAR					636.70	27.72	24.24	3
GFFNTLR	427.74	26.32	34.39	2	427.74	25.90	37.47	2
VADISLAAWGR					579.84	31.98	56.49	2
QILVGVNK	435.79	15.06	27.42	2	435.79	18.19	32.85	2
EFLDAGEQVVSSPAH(sub D)VAEK					1007.04	31.53	31.13	2
WHFYDTVK					548.29	23.84	51.13	2
LNIPVSQVNPR	618.87	23.69	40.96	2	618.89	24.67	50.98	2
LLEVLSGER	508.30	25.91	39.6	2				
LVLEVAQHLGE(+14.02)STVR(+14.02)	560.33	33.89	27.2	3				
SHDIVLVAYGALGSQR	562.66	34.89	62.82	3	562.65	30.50	62.9	3
SLTDELALVDVLEDK					830.50	45.66	43.96	2
DHLLLATM(+15.99)EAMN(+.98)GGK	539.94	24.37	46.66	3				
MILGYWDIR					583.82	38.12	28.94	2
LPFLPTPMGK					550.82	34.19	38.21	2
GLGTDE(+14.02)D(+14.02)TIIDIIAHR	589.65	49.25	34.32	3				
YLDEDTIYHLQPSGR	602.97	29.87	54	3				
LMC(+57.02)PQEIVDYIADK					847.95	42.53	48.76	2
EALQEAGFIIEK					674.41	30.16	46.8	2
AAVQVLDDIEK					600.86	27.11	36.29	2
IELLGSYDPQK	631.84	30.11	29.2	2				
EWVNQNHPVLLEDPVLSAIA(sub S)QK					834.15	40.00	27.69	3
EAAIVH(sub D)PVQPQK					658.88	20.63	23.77	2
HGGTIPIVPTAEFQDR	579.98	29.27	41.18	3	579.99	28.46	55.31	3
DTTPDELLSAVMTAVLQDVK	716.05	67.95	67.67	3	1073.58	51.48	48.48	2
ENTLNQLVGAAFGAAGQR	606.34	51.80	53.57	3	606.34	40.74	69.97	3

VVDLLYWR					532.32	36.06	43.8	2
YQLAVTQR	489.79	14.76	39.93	2	489.80	17.81	38.17	2
QGQYSP(+15.99)MAIEEQVAVIYAGVR	775.74	55.48	25.79	3				
GTYQGLTATVLK	626.36	26.62	52.22	2	626.38	26.98	30.25	2
TIPIDGDYFSYTR	774.40	38.92	29.01	2	774.41	33.52	51.32	2
SPDGDDNQLIQITMK					837.95	30.63	42.97	2
LSLLELGC(+57.02)GTGANFK					790.44	36.90	44.99	2
YAN(+.98)ALLAIK	489.30	29.22	28.01	2	489.32	28.77	40.21	2
GLELYLDLLSQPC(+57.02)R					838.96	44.57	27.65	2
TIGLDVTEYEDNLKK	579.99	33.18	34.38	3				
TLDFIDVLLLTK					695.93	49.00	31.27	2
AAFDDAIAELDTLSEESYK					1044.57	45.70	52.32	2
PAPLLSNTPALPSIK	759.95	39.52	22.77	2	759.96	33.90	52.73	2
YFDPATGK					449.75	16.16	32.28	2
AQVSLLIR	450.30	23.94	31.03	2				
SLGISPFHEFAEVVFTANDSGPR	826.43	55.01	41.07	3	826.45	44.19	45.13	3
NLFFSTNIDDAIK	749.40	45.70	49.02	2	749.42	38.32	55.75	2
SFSAPEHQPSALEHR					564.96	15.78	42.67	3
GLNSESITE(+21.98)ETLKK					785.95	20.29	33.95	2
VAEQTPLTALYVANLIK	615.37	55.56	61.06	3	922.55	43.78	75.2	2
LYFEELSLER	649.84	40.73	50.95	2	649.86	35.38	52.84	2
S(+42.01)SSNC(+57.02)VALVTGANK	725.38	25.89	22.58	2				
SPIEFLEDAYEK					720.90	37.11	28.29	2
I(+109.05)FIDGDYPEVVK					752.43	38.46	24.16	2
VMEETFSYLLGR	722.87	45.34	68.2	2	722.89	37.94	67.37	2
ATENDIYNFFSPLNPVR	666.35	56.55	27.82	3				
ELIELNYLGTVSLTK	846.99	51.77	43.53	2	847.02	41.64	64.36	2
PGLVVVHAEDGTTSK	503.95	14.32	66.5	3	503.97	17.57	47.29	3
AVAQALEVIPR					583.87	28.77	37.09	2
SPIILGSPEDVTEFLEIYK	717.41	64.05	77.62	3	1075.62	48.28	57.6	2
AFQGLLDTYSVR					685.39	33.40	47.39	2
IQEEALC(+57.02)LVEALK	758.43	46.09	44.08	2	758.44	38.86	45.06	2
FSTLPLNEK	524.80	20.95	29.28	2	524.81	23.27	33.16	2
VDSGIQPGSDISIYYDPMISK	762.39	47.63	24.62	3				
PTTLSETMGK					532.81	15.51	41.83	2
AAAEVNQDYGLDPK					745.89	20.29	54.62	2

AVIFDMGGVLLPSPGR					814.97	42.82	54.41	2
FQELMSGPGR					561.30	21.11	44.72	2
MLVGTVFQK	511.80	26.67	25.42	2	511.80	26.32	50.14	2
FNISN(+.98)GGPAPEAITDK					816.45	27.00	38.32	2
EESFGPIM(+15.99)IISR	697.87	38.96	43.22	2				
EGLELPEDEEEK					708.84	23.19	35.91	2
TFSEAEIFPFNPFDLTK	1002.02	64.73	35.85	2				
VAIEPGAPR					455.29	15.30	35.45	2
TADTTPFHIQAEVTM(+15.99)K	602.64	24.41	29.5	3				
GQILTMANPIVGN(+.98)GGAPDTAALDELGLSK					942.20	45.03	36.1	3
FFPASADR	455.73	15.85	32.15	2	455.74	17.71	29.98	2
MTSENLLNALK					617.36	31.51	50.66	2
VLDSFSN(+.98)GM(+15.99)K	557.77	15.33	41.13	2	557.80	17.28	36.48	2
GGPIITTQVTIPK					662.92	28.81	34.98	2
ALGQNPTNAEVLK	677.89	17.68	55.63	2	677.90	20.43	47.63	2
VAVVAGYGD(+21.98)VGK					578.83	20.98	35.55	2
VSFTGSVPTGSK	583.82	17.28	51.65	2	583.83	19.93	55.41	2
DLMDDLK					425.22	27.33	32.38	2
TFIIGE(+21.98)LHPDDR					717.88	28.36	28.99	2
GTTLITNLSSVLKDETVWEK					745.44	42.93	25.98	3
LTDC(+57.02)VVMR					497.26	18.53	41.72	2
WSTPSGASWK					553.80	23.47	26.54	2
IGDTIEFR					475.78	22.81	43.33	2
MVTSIPGR					430.76	16.85	28.24	2
IITHPNFNGNTLD(+21.98)NDIMLIK					769.10	36.31	23.83	3
WLVTAPVVEYR					666.90	35.01	38.55	2
IQTQPGYANTLR	681.39	15.97	37.7	2	681.39	18.88	42.04	2
VGGH(+26.02)AAEYGAEALER					778.44	22.84	23.36	2
ELIRDEGITSLYK	512.96	28.89	32.49	3	768.95	27.74	35.15	2
IDGITIGQSLAIIEYLEETRPTPR	895.83	63.35	36.7	3	895.87	48.00	28.66	3
KPLIIFTPK					528.86	23.67	45.18	2
FPDATEDELLK					639.33	28.75	51.39	2
TGGLEIDSDFGGFR					735.87	34.82	52.66	2
FHPEHFLDAQGR	485.25	16.89	54.43	3	485.26	20.08	46.53	3
MAASLLNPYVK					603.84	28.91	54.42	2
GISQEQMQEFR					676.86	21.50	36.35	2

TVAVVHEVQR					569.36	13.22	35.55	2
EAVTFLR	418.24	19.98	32.02	2				
VTVVYAEDGK					540.81	16.47	56.67	2
DFVTAFK	414.23	27.22	40.3	2	414.24	27.20	36.5	2
DGLTDVYNK					512.79	19.67	39.32	2
FAEEADVVIVGAGPAGLSAAAR	691.05	43.52	71.17	3				
AC(+57.02)QAAWALK					509.79	20.34	36.65	2
LGMLEEDLLALK	672.88	50.47	25.76	2	672.90	41.83	57.59	2
VDATEESDLAQQYGVR					890.97	26.59	79.48	2
TLN(+.98)DELEIIEGMK					753.42	38.25	30.22	2
GVGIISEGNETVEDIAAR					915.53	32.28	47.3	2
VVAGVANALAH	511.31	18.82	32.95	2	511.32	21.18	42.98	2
MVEGFFDR	500.74	27.06	33.89	2	500.76	27.16	42.15	2
LINEIEEMGGMAK	717.87	35.62	55.13	2	717.88	31.73	50.05	2
SLQSISSFR	512.79	20.51	27.48	2				
PATVVLQTK	478.80	13.10	36.12	2				
FFPPFPK	440.25	32.40	29.69	2	440.24	31.04	31.24	2
FWANFAR					456.24	27.16	39.57	2
VDILEN(+.98)QVMDVR					716.41	31.35	33.76	2
SGVYQHVSGEIMGGH	519.92	20.02	50.66	3				
ILFIFIDSDHTDNQR	612.00	42.52	45.41	3	612.01	36.99	50.75	3
IPSAVGYQPTLATDMGTMQER					756.07	33.37	69.01	3
GEGLSVTGTVCHVGK(+57.02)	500.93	16.52	22.58	3				
NFPLLMQAWK					624.34	39.94	29.96	2
FGMAAALAGTMK					584.80	30.10	71.42	2
YFAGTM(+15.99)AE(+21.98)ETAPAVLER	631.97	37.13	44.35	3	631.98	32.82	26.72	3
GHEVTVLIPSVTTFIDPK	651.71	48.45	42.11	3				
M(+15.99)LLFTEVTR	563.31	29.54	35.64	2				
LLAQTTLR	458.30	15.32	23.6	2	458.31	18.30	27.48	2
GLFIIDPNGVIK					643.40	39.77	32.61	2
LQAEIEGLK					500.82	21.85	34.43	2
ELSSFIQK					476.28	21.92	29.62	2
LQVAGEITTGPR	621.35	19.94	51.1	2	621.37	22.00	50.07	2
TSALPIGEIATVSK	693.92	33.65	36.26	2	693.93	31.03	41.28	2
GLLWGFQDLSLNK					745.92	43.12	49.04	2
ELSGVDLVIEAVYEDM(+15.99)NLK	718.38	63.99	39.52	3				

AGWTIVTPPTPIIPDDHPLWMSSK					887.16	43.43	24.68	3
TAGWNIPMGLLYSK					775.91	41.55	47.4	2
Q(-17.03)VHPDTGISSK					576.30	14.77	40.85	2
ESYSVYVYK	569.29	21.23	43.15	2	569.30	22.84	43.73	2
SLGISPFHEFAEVVFTAN(+.98)DSGPR					826.78	44.47	36.47	3
GVSEIVQH(sub N)GK					527.28	16.09	25.95	2
IITHPNFNGNTLDNDIMLIK	761.76	42.49	37.4	3	761.77	36.12	41.4	3
KFDQLLAEEK					610.87	20.37	34.24	2
DLDVAILVGSMPR	693.38	54.65	30.79	2	693.41	43.24	62.44	2
SELSGNFE(+21.98)QVILGMMTPTVLYDVQELR					1031.23	50.37	25.08	3
LDQGVAPLAGTNK	642.37	16.49	48.8	2	642.38	18.92	53.32	2
DVNAAIATIK	508.30	23.47	44.21	2				
QGAVPVLYLSLAK					679.91	36.74	49.96	2
LWHLQAPLPAGIK					481.96	32.48	42.82	3
SGDLGQLPAK					493.29	16.68	31.73	2
VM(+15.99)LPANSFQGK	604.32	19.79	40.19	2	604.34	21.98	29.97	2
HLETLAGPQIR	412.25	15.70	37.48	3	617.88	19.47	57.32	2
GSGAPVLLR	435.28	16.07	25.22	2	435.29	19.21	33.4	2
GVVDSEDIPLNLSR	757.41	36.67	65.63	2	757.42	32.11	61.09	2
Q(-17.03)GWLMEVTDSLDR					766.89	48.73	34.03	2
M(+15.99)C(+57.02)LGEQLAR	547.27	14.18	22.91	2				
TLNDELE(+21.98)IIEGMK					763.93	38.93	39.6	2
LNDGHFIPVLGFGTAEAK	629.36	40.62	50.65	3	629.37	35.54	57.48	3
ELIE(+21.98)LNYLGTVSLTK					858.01	41.67	30.29	2
IIEVGDTPK					486.30	17.45	23.61	2
IPLNDIFR	494.29	35.05	33.79	2				
FVFSLVDAM(+15.99)N(+.98)GK	672.83	41.06	50.83	2				
TPFGAYGGLLK	562.32	34.85	57.02	2	562.32	31.33	63.08	2
DTTASAVDVGLR					602.85	22.38	55.15	2
DIQNR					645.29	52.45	25.72	1
YVTVQTISGTGALR	733.42	35.80	60.75	2	733.42	26.33	65.3	2
IIYGGSVTGATC(+57.02)K					663.87	19.18	47.82	2
VIPATDLSEQISTAGTEASGTGNM(+15.99)K	832.09	34.13	33.56	3				
VVEGLPIN(+.98)DFSR	673.87	35.22	27.78	2				
SETSGSFEDALLAIVK	833.95	57.01	62.39	2	833.97	45.13	76.59	2
GVEFLAVPSTYYK	737.39	40.71	49.86	2	737.42	35.39	49.14	2

YLGTQPE(+37.96)PDAVGLDSGHIR	516.51	26.70	37.83	4				
TILPAAAQDVYYR	740.91	32.70	32.83	2				
ISATSIFFE(+21.98)SMPYK					821.92	40.30	49.97	2
KYPGILDVK	516.82	17.86	43.87	2	516.82	21.44	40.31	2
RGQNQPVLNITNR	503.96	13.70	27.59	3	503.96	16.68	26.58	3
TACER					579.33	50.20	23.68	1
VKVDEVGGEALGR					664.90	18.16	53.75	2
AELAGVAGLR	478.79	20.80	41.36	2	478.80	22.91	39.09	2
Q(-17.03)NLIAEISTK	550.31	42.32	28.31	2				
INLIYSR					439.77	22.33	30.47	2
HFGC(+57.02)SSYSVANNEK	533.91	12.02	26.64	3	800.37	14.41	30.49	2
ALQASALAAW(+15.99)GGK	630.35	26.64	35.77	2				
AVPQLQGYLR	572.85	37.26	30.22	2	572.84	27.32	39.79	2
VPSTEAEALASSLM(+15.99)GLFEK	666.01	61.01	22.49	3				
TK(+42.01)PADEEMLFIYSHYK	672.01	41.57	26.93	3				
VVPEMTELLK	579.84	35.29	28.97	2				
PSYVLSGSAM	506.26	29.95	29.93	2				
TDTEAELDLVSR					674.85	25.99	54.95	2
VALLGGGYC(+57.02)MSK					628.33	26.30	35.74	2
FVAVTSTNAAK	554.82	12.72	46.07	2				
PQFLGVAEQLHN(+.98)EGFK	605.65	36.64	35.74	3	605.67	32.54	37.84	3
ALPDVVAQYQALGAELNVLPF	743.43	67.49	45.06	3	1114.66	50.52	27.7	2
TGLQAGLTIDEFAPR	794.94	41.90	51.44	2				
ETVVTSTTEPSR					653.84	13.79	43.73	2
ILVWPMDFSHW					715.87	48.05	24.14	2
ETVSEESNVLC(+57.02)LSK					797.92	25.81	39.93	2
SQVTNYM(+15.99)GIEWMR					815.91	31.10	54.02	2
DGQVIFPAPTPK					635.37	27.50	40.01	2
ETTVQGLDGLSER					702.87	23.80	55.96	2
AVNTLN(+.98)EALEFAK					710.92	29.25	39.76	2
GEADAMSLDGGYLYIAGK					915.97	36.52	63.83	2
ARPEFMLPVHFYGR					430.73	31.76	59.99	4
TFD(+37.96)IQLGDIVDEIQR	600.63	57.90	25.52	3				
AVN(+.98)TLNEALEFAK	710.89	40.51	48.32	2	710.90	34.61	54.02	2
SGTIFDNFLITNDEAYAEEFGNETWGVTK					1090.20	48.84	36.36	3
ALDLAENEM(+15.99)PGLMHMR	615.30	30.40	28.31	3				

VLSIGDGIAR	500.81	23.46	35.53	2	500.81	24.44	38.34	2
IITHPNFN(+.98)GNTLDNDIMLIK(+27.99)LSSPATLNSR					835.48	42.35	27.44	4
EANNFLWPFK					633.35	39.91	36.99	2
GYILEVYGVHFELPDLGPIGAN(+.98)GLANPR					994.88	48.32	52.95	3
VGIPSDPSADMGALISK					829.45	34.81	47.46	2
KVNLGVGAYR					538.82	16.26	36.72	2
MSSAALIHHYTK					453.59	16.20	34.95	3
HFDLSHGSAQVK	442.57	27.96	28.1	3				
SPIILGSPE(+37.96)DVTEFLEIYK	730.06	64.15	22.78	3				
LVAIVDVIDQNR	677.90	40.43	47.32	2	677.92	35.17	57.23	2
EVQLEELEAGR					636.85	25.43	38.2	2
STAEYFAER					537.27	17.89	44.32	2
VWPHGD(+14.02)YPLIPVGK	531.30	50.19	22.4	3	531.29	31.13	32.02	3
NPDSLELIR					528.83	25.15	43.47	2
IIAEGAN(+.98)GPTTPEADK					792.91	17.61	48.97	2
ILGADTSVDLEETGR					788.45	27.29	49.14	2
TGSTEVGHLIQVAAGK	523.31	26.85	56.75	3	784.47	27.02	43.67	2
LSDIGEGIR					480.29	18.86	35.59	2
QAVSM(+15.99)FLGAVEEAK	748.39	35.09	33.01	2				
FQELM(+15.99)SGPGR	569.28	13.39	36.43	2	569.31	15.95	33.36	2
DGPLN(+.98)MILDDGGDLTNLIHTK	751.74	56.55	25.48	3	751.74	43.77	31.26	3
LFGAAEVQR	495.78	17.55	36.24	2				
VMTIAPGLFGTPLLT					765.94	48.78	41.53	2
DPVVLNFNPF	581.32	63.24	28.54	2	581.33	47.61	46.33	2
QVITLLNE(+21.98)LK					596.88	35.13	36.61	2
PQVAVIC(+57.02)GSGLGGLVNK	834.96	36.63	29.27	2				
SYSPYDMLESIK					716.87	37.65	42.82	2
GTFAALSELHC(-33.99)DK	453.24	23.84	22.9	3	679.37	25.37	40.74	2
AILN(+.98)YIATK	504.31	30.93	25.38	2	504.32	25.77	30.22	2
HIDSAHLYQN(+.98)EEQVGQAIR					737.09	23.70	29.75	3
SLLHTLYGR					530.31	22.06	35.8	2
ALNDHHVYLEGTLLKPN	645.37	26.30	57.11	3	645.38	26.34	50.49	3
YLAIAPPIIK	549.86	37.02	25.29	2				
IFPVETVVEEAIQC(-33.99)AEK					936.03	49.32	29.89	2
YEYGIFNQK	581.29	24.39	53.47	2	581.32	25.40	51.2	2
YQIDPDAC(+57.02)FSAK					707.87	25.84	23.28	2

LN(+.98)DGHFIPVLGFGTAEAK					629.69	38.48	43.55	3
KGYTQQLAFR					606.34	17.62	44.58	2
EAFSLFDKDGDGTITTK	615.66	32.58	59.25	3	615.69	29.69	28.8	3
AGVANALAHR	490.29	15.32	45.99	2	490.29	17.84	42.03	2
YTGTPPPNLAK	579.82	13.06	37.11	2	579.84	15.62	35.78	2
VQVSVFK	403.75	16.71	32.46	2	403.76	19.97	37.8	2
IIAVYDLGGGTFDISILEIQK					1133.17	48.24	70.72	2
DFPVDFFER	586.29	50.79	24.51	2	586.30	41.28	29.25	2
IGLFIK					690.44	26.81	24.44	1
VLLEAAIR	442.80	23.25	33.63	2	442.80	24.90	37.22	2
KAPILFNK					465.79	15.67	32.2	2
PAFENVLK	459.27	38.92	28.55	2	459.28	34.81	34.71	2
IEFEGQSVH(sub D)FVDPNK					873.46	33.32	31.34	2
SNM(+15.99)IASALAQIPQK	496.61	31.02	32.69	3	744.44	29.09	37.89	2
FSFTGSR	401.20	15.69	24.24	2				
IMQSSSEVGYDAMLGDFVNMVEK	850.76	62.99	88.89	3	850.77	47.85	57.97	3
YGGSYFPK	459.73	16.02	45.2	2	459.74	19.18	50	2
IC(+57.02)YSPDFEK					579.82	22.16	26.38	2
SPVAK					501.32	23.03	23.58	1
KLFYSTFATEDR	493.27	23.66	34.95	3	739.40	25.22	47.42	2
AVFPSIVGR					473.29	27.51	32.86	2
LGEHNIDVLEGNEQFIN					971.04	34.22	29.4	2
GCLIEILASR	537.81	36.69	38.29	2	537.83	33.52	32.9	2
LLLNNDNLLR	599.36	32.85	24.81	2	599.38	30.80	37.35	2
LGQSDPAPLQHQMDIYQK	690.36	25.09	30.24	3				
FLANVSTVLTSK(+21.98)					651.36	30.67	23.26	2
GIVDQSQQAYQEAFEISK	681.01	43.15	41.38	3				
ALDPAQWTIQK					635.88	29.15	62.21	2
IQLISNMLDK	587.84	34.91	44.51	2	587.85	32.21	31.57	2
LSIIATDHTYR	430.58	18.04	32.89	3				
DLLIAYYH(sub D)VDYEK					821.44	39.01	30.89	2
EVSGGGVD(+37.96)FSFEVIGR					564.95	37.69	23.9	3
DVLLQVDDER					601.32	25.48	43.49	2
GLLQQPEAGGIFK	679.40	34.22	48.41	2	679.41	31.48	44.14	2
VLEQLTGQTPVFSK	773.94	34.01	64.05	2	773.96	30.41	55.96	2
SLQAYLEK	476.27	19.64	31.89	2				

EEAESTLQSFR					648.83	21.68	58.98	2
VDIMENQIMDFR	755.87	43.66	57.07	2	755.89	36.79	64.13	2
ILFQEFR	476.78	30.43	24.5	2	476.79	29.89	35.05	2
VFLEN(+.98)VIR	495.79	35.18	27.41	2	495.81	32.20	29.56	2
SIAMEEISR					518.28	20.06	38.56	2
S(+42.01)LVASQSPLR					550.34	28.95	26.91	2
SLGMIFEK	462.76	28.25	35.15	2	462.77	28.47	40.93	2
IDRPEAISEER					438.90	14.58	35.12	3
YQVQTQE(+21.98)NYEAFMK					900.93	28.55	39.33	2
LITLEE(+21.98)EMTK					614.85	27.38	26.48	2
LLYDLADQLHAAVGASR	605.01	44.20	50.45	3	605.01	35.82	56.38	3
VVNVSSIMGR					531.31	25.23	58.42	2
FTVMYNK					451.75	19.65	32.22	2
TLDSLLLPTAK	586.36	36.08	36.11	2	586.37	32.85	42.45	2
MVVESAYEVIK	634.34	29.72	50.48	2	634.36	28.52	58.86	2
YETLISTHESTIR	517.28	18.40	60.67	3	775.43	21.70	59.19	2
LIFYDLR					470.28	32.73	24.99	2
VVQLDVR	414.76	14.96	33.24	2				
LANHQLVLR					532.35	15.49	44.37	2
KYTPEQVAMATVTALHR					639.36	30.97	85.03	3
LVAGEMGQNEPDQGGQR					893.44	16.45	73.53	2
Q(-17.03)FHLHWGSSDDHGSEHSVDGVK					489.64	24.94	33.73	5
IGVTVLSR	422.78	19.44	42.68	2	422.78	21.24	39.56	2
AQIPVIAVESDKK	466.62	19.52	39.07	3	466.62	22.45	42.38	3
AVEHLDDLPGALSE(+21.98)LSDLHAHK					797.10	34.42	32.1	3
SGYLLPDTK	497.28	19.40	46.99	2	497.29	21.97	34.21	2
MPYTD(+14.02)AVIHEIQR	529.62	30.02	27.22	3	529.63	28.84	33.24	3
DLATVVSDMIFLLK					782.95	51.23	66.3	2
FLVDFGK	413.24	31.39	30.69	2				
TWEALEK					438.75	19.01	26.33	2
LPPGPTPLPIIGN					643.40	41.56	33.11	2
RVSINVVR					471.81	14.13	34.97	2
FEASGPQLLPVR	657.38	31.97	50.45	2				
QC(+57.02)SSGLQAVASIAGGIR					837.96	33.59	53.86	2
DLFSEAHSEFLK	474.92	38.28	35.99	3	711.87	33.78	68.83	2
VFVVGVGMTK					518.81	26.77	45.71	2

ENVQDVLPALPNPDDYFLLR	776.77	63.68	33.83	3				
GISMPELFLDPAYR					804.95	43.44	58.76	2
IEDFLER					461.26	24.37	24.59	2
DFNVGD(+21.98)YIQAVLDR	549.61	65.30	23.21	3				
ELISNASD(+21.98)ALDK					649.34	22.89	26.98	2
DATNVGD(+21.98)EGGFAPNILENK					992.01	32.98	25.15	2
Q(-17.03)SVWTSTISSHLATK					814.95	32.80	43.48	2
TIQVDNTDAEGR					659.81	14.34	51.46	2
DM(+15.99)DLVEVNEAFAPQYLAVEK					1149.14	40.96	46.72	2
REDDPNFFK					584.30	18.17	30.14	2
GLNSESITE(+21.98)ETLK					721.90	24.00	37.68	2
VW(+3.99)PHGDYPLIPVGK	527.97	47.00	31.6	3				
AVLLGPPGAGK	490.31	18.16	25.05	2	490.32	21.15	32.11	2
ISS(+27.99)VQSIVPALEIANAHR	645.04	53.63	25.6	3				
MFLLQGAQMLQM(+15.99)LEK					898.95	44.85	41.89	2
LLVVSHPDVK					553.85	18.47	26	2
I(+57.02)GCFALSEPGN(+.98)GSDAGAAATTAR	732.36	32.69	43.61	3				
PVIHIDQTGENVLVETLNHELYEAK	716.14	51.22	53.3	4	716.16	41.85	43.88	4
LVGPEGFVVTEAGFGADIGMEK					741.74	43.45	44.07	3
IYQD(+21.98)PQVMLAPLISIALK					679.05	48.78	43.48	3
VDFNVPMK					475.27	25.50	41.92	2
KAQDEGLLSDVVPFK	549.31	38.56	48.53	3				
LLVVYPW(+3.99)TQR					639.86	49.82	23.78	2
VNN(+.98)SSLIGLGYTQTLKPGIK	702.09	38.60	28.47	3				
VYVQHLLK	500.32	14.88	32.39	2	500.32	17.32	49.16	2
DSLLGEPGLGFK	616.84	40.01	47.47	2	616.85	34.40	43.01	2
M(+15.99)AGHDINYLALSGVLSR	611.67	40.31	34.52	3				
LVPELDTIVPLESTK	827.49	47.63	35.33	2	827.50	39.17	59.56	2
AGLQFPVGR	472.78	25.17	42.14	2	472.78	25.27	43.18	2
YYSFDYEGIAK	678.33	33.10	30.77	2	678.34	30.29	42.39	2
TQLPWDSVGR					579.83	28.25	26.2	2
NALTEEVTKPTGSTADQSYK					714.07	20.17	43.92	3
VAFNFAAR	448.26	23.70	43.79	2	448.25	24.07	51.67	2
ELIEIISGAAALD(+21.98)					668.88	44.98	27.26	2
IQEIIEQLD(+21.98)ITTSEYEK					1037.55	38.34	37.21	2
SKEFDQIIK					554.34	18.66	37.96	2

EQGVLSFWR					561.32	35.03	36.42	2
DIPGLTDTTVPR	642.86	32.17	39.08	2	642.86	29.16	42.36	2
A(+42.01)ASEQPQAGELLAK					727.92	27.03	29.62	2
DFLAPGVR	437.75	23.66	23.32	2				
LVSDEM(+15.99)VLELIEK					767.46	38.89	33.78	2
DYAVSTVPVVDALHLK	576.34	44.21	54.79	3				
LSSVDPSHAAVVNR	484.60	13.88	46.86	3	484.61	16.90	42.02	3
VTNVGH(sub D)GTTHSTALELFLYLNEVAGK					924.51	46.28	34.01	3
DIDLSPIAIGFGK	673.39	53.16	56.38	2	673.40	42.05	59.62	2
SLGQWLR					430.25	26.08	30.24	2
APALVNAAVTYSK	652.88	25.74	28.55	2				
AEITTEDFLQEFGR	828.42	48.80	39.63	2	828.43	40.22	69.55	2
DPTEVTAIGAVEAAFK	809.93	53.85	53.74	2	809.95	43.07	69.5	2
LGIFIK					690.44	26.81	24.44	1
SVTEFN(+.98)GDTVTSTMTK					859.96	26.21	45.72	2
DIFQEIYDK					585.83	34.61	42.94	2
KNNLGELINTLNAAK	538.32	35.10	38.23	3	806.98	31.29	34.48	2
FFTGQITAAGK	570.82	22.81	62.77	2	570.82	23.08	67.59	2
VQDFQEDEELFR					777.88	30.68	56.99	2
SQFTITPGSEQIR	732.39	24.86	43.07	2				
IVYQDLE(+21.98)PVILTIEEAIQNK					784.13	49.99	37.83	3
NPSTSLGPTLEPEEVVNK					956.05	28.60	43.14	2
GIPHLVTHDAR	405.90	11.78	33.29	3	405.91	14.18	28.42	3
ETDLLLDDSLLFLFGNHR	706.72	65.75	34.33	3	706.74	48.97	38.49	3
QLYEEEIR					540.28	19.05	37.88	2
YVAAAFPSAC(+57.02)GK	621.32	19.15	37.37	2	621.34	21.78	39.33	2
LFEMAYK	451.24	24.28	35.47	2	451.25	25.38	37.22	2
DGSIDLVINLPH(sub N)NNTK					875.47	37.17	33.48	2
YVEELDPSLLANFPLLK	654.37	64.25	31.33	3				
LFTVVAWDPR					602.35	35.94	52.6	2
IFPVETVVEEAIQC(+57.02)AEK	654.68	63.93	38.64	3	981.54	48.13	51.08	2
SLAFAYVPVELSK					712.42	38.31	55	2
ISEQFTAMFR					615.33	32.39	49.35	2
IAEEFEVELER					682.38	30.42	66.78	2
VDATE(+21.98)ESDLAQQYGVR					901.97	26.62	30.66	2
MIPAAHFFEK	595.82	24.44	23.05	2	595.83	26.18	43.01	2

GDEELD(+21.98)SLIK					570.80	27.89	23.78	2
IFVDIEK	432.26	22.83	38.46	2	432.26	24.50	32.24	2
AMGIMNSFVNDIFER	872.42	58.48	47.8	2	872.45	45.92	58.65	2
MVNHFIAEFK	412.56	22.91	26.71	3	618.34	25.25	57.9	2
NLQLDYVDLYIMHYPM					1014.53	48.04	47.01	2
VPAINVNDSVTK	628.86	19.37	58.12	2	628.87	21.50	71.4	2
AAFENWELEVTFR					806.45	40.78	57.26	2
LDPHLVLDQLR	440.27	36.87	48.8	3	440.28	32.80	51.64	3
HWGGNVLGPK					532.81	17.11	37.41	2
GENQSPIE(+21.98)LNTK					676.37	18.78	37.69	2
IALGIPLPEIK	582.39	56.06	46.55	2	582.39	39.26	52.8	2
APVHSILLDSAGK					654.40	20.97	70.99	2
IITHPNFNGNTLDNDIMLIKLSSPATLNSR					828.21	39.52	31.87	4
QFVFDLHSGK					589.33	25.59	29.13	2
HGEEVTPEDVLSAAMYPDVFAHFK	673.10	56.83	52.95	4	897.15	44.79	56.94	3
ISFTGSTATGK	535.29	14.06	36.91	2	535.31	16.73	45.29	2
TFYGLHEDFPSVVVVGLGK	688.71	48.99	38.31	3				
VLVEPDAASGVAVMK(+15.99)					751.45	23.79	30.4	2
AQLADSFHLQQFFR					569.97	37.19	55.35	3
GVFHGIENFINEASYM					914.47	44.25	28.15	2
GLAPDLPEDLYHLIK	565.33	51.29	26.19	3	565.34	42.01	36.02	3
GIHSAIDASQTPDVVFASILAAF					1165.64	49.96	31.07	2
DQWD(+21.98)IIEGLIR					690.38	46.94	29.61	2
M(+15.99)DSTANEVEAVK					655.32	14.71	33.41	2
PFVELDT(+79.96)SLPAGR					741.38	49.51	46.65	2
AFGFMTR					415.22	24.76	32.14	2
IIWQDGTDSIYPAVWLR					1017.05	44.85	67.38	2
QGIIPSGLTENELWR					856.99	39.05	38.71	2
M(+42.01)DDREDLVYQAK					762.90	25.18	23.19	2
G(+57.02)CGTVLLSGPR					558.82	20.81	39.38	2
QADTVYFLPITPQ(+21.98)					757.92	43.32	29.25	2
REPGSGFSFEFTEQQK	625.31	27.65	47.3	3	625.33	27.83	57.35	3
IGPALSC(+57.02)GN	444.73	18.21	28.11	2				
AFM(+15.99)TLVDELIAEQK					812.45	42.37	34.64	2
ILQHVLQHAVAGDPQSVVAAIDSYSLEK	747.93	61.98	41.75	4	747.93	38.65	56.8	4
ANVIASALAQIPQK	475.29	40.29	49.9	3	712.43	34.55	57.64	2

FLWPGFGENAR					647.34	36.53	36.8	2
TFVQE(+21.98)DIYAEFVER					884.48	39.09	29.08	2
GLGTDED(+37.95)TIIDIIAHR	592.97	48.55	26.46	3				
VAFTGSTE(+21.98)VGHLIQVAAGK					954.04	35.46	34.75	2
VFEVSLADLQNDEVAFR	651.35	54.06	47	3	976.53	42.88	68.13	2
SQYIR					666.38	49.88	24.04	1
EGFHFEETLTGFK	514.59	37.32	29.68	3				
LESEHPDQAQAILSR					565.33	19.77	26.49	3
AFFFTPK	429.24	29.57	24.51	2	429.24	29.00	27.46	2
EPLGPALAHELR	434.92	23.53	46.58	3	651.89	25.27	57.58	2
LTPETLTR	465.78	14.28	28.29	2	465.78	17.13	27.91	2
IAVIGQSLFGQEVY	762.42	56.36	31.57	2	762.45	44.52	43.72	2
AGQAVDDFIEK					596.82	22.71	40.45	2
FLANVSTVLTSK	640.37	30.94	36.9	2	640.39	30.67	63.54	2
YM(+15.99)LW(+31.99)LSADLK					644.34	33.09	45.91	2
PSFSS(sub A)ELKPK	560.31	12.83	26.58	2	560.33	16.18	28.61	2
HFVALSTNTAK	594.83	12.51	32.91	2	594.85	14.90	44.14	2
EAGFPPGVVNIVPGYGPTAGAAISSHMDVD(+15.99)K					1023.89	37.73	28.29	3
IEVLDNTQQLK					650.90	23.36	48.37	2
FYYIDDPDGLK					673.36	30.59	40	2
LVSIGAEEIVDGNAK					757.96	28.76	56.3	2
ALDLAENEMPGLMHMR	609.97	39.27	44.75	3	609.98	34.36	53.63	3
Q(-17.03)SDLDLLAK					493.30	32.89	24.06	2
GLYPAPLK	429.77	19.70	34.45	2				
LQLGPEILQK	569.86	32.20	39.5	2	569.87	30.13	46.16	2
FLEEHPGGEEVLR					504.62	21.84	34.56	3
TVYTFVGRPEDVVEGALNAAR	755.42	47.51	60.17	3				
ELFDPIIEDR					623.84	34.25	34.34	2
MLVSSEDVLHSWAVPSLGLK					723.41	41.81	55.03	3
LYIDSYEK					515.80	21.12	29.13	2
SYELPD(+37.96)GQVITIGNER	610.30	40.41	40.59	3	610.31	34.70	27.36	3
AAVN(+.98)GVHLHYLR					450.94	20.13	31.47	3
ATGYPLAF	420.23	39.81	27.18	2				
LKEWVNPNLPFLLEDPVLSAIAK					869.52	47.76	44.57	3
ASGPPVSELITK	599.85	23.56	56.13	2	599.86	24.97	66.87	2
GVVQDLQQAVSK	636.36	31.20	47.55	2				

DSPSVWAAVPGK					607.34	27.70	60.64	2
GFGFGLVK	412.75	32.02	25.51	2	412.75	30.07	23.53	2
HVPGASFFDIEEC(+57.02)R	555.28	33.03	56.62	3	832.41	30.91	30	2
SQYLR					666.38	49.88	24.04	1
N(+.98)FLASQVPFPSR	682.37	41.47	34.86	2	682.39	38.02	36.93	2
VMVAEALDISR	602.33	31.18	52.54	2	602.35	29.41	56.82	2
FQATTSGPLIR	595.84	20.66	45.87	2	595.86	22.97	45.73	2
LAAVDHINAVIR	431.27	23.62	43.8	3	431.28	24.76	56.02	3
FVHDNYVIR	581.82	14.46	51.48	2	581.83	18.03	54.44	2
LIKLDLK	421.78	27.12	22.8	2				
LSAIQHDQPMKPLDR					438.00	17.76	63.43	4
VAMSHFEPNEYIR					531.61	25.98	58.88	3
GTIEINPR					450.28	16.28	32.77	2
LEGLLAFK	445.78	33.23	22.81	2				
DLMADLK					403.24	26.05	30.09	2
WILLEK					401.27	29.42	23.62	2
DALSSVQESQVAQQAR					858.99	22.60	49.21	2
EFTEDSAIFE(+21.98)DGTVFK					928.98	37.60	27.09	2
SVTEFNGDTVTSTMTK	859.43	25.94	52.93	2				
VAFTGSTEVGHLIQVAAGK	629.03	41.93	44.43	3	629.04	34.68	74.9	3
GLFDE(+21.98)YGSK					519.25	25.22	31.91	2
VGLQVVAVK	456.81	20.61	47.51	2	456.82	23.18	43.02	2
SGLGELILPENEPGSSIMPGK	709.04	48.02	28.11	3	1063.09	39.16	36.41	2
SLPADILYEDQQC(+57.02)LAFR	680.34	49.96	36.42	3				
LNSGEVIIGDGGFVFALEK					983.07	43.87	42.72	2
VSLDVNHFAPEELTVK	600.00	37.36	52.71	3	600.01	32.85	41.11	3
NLVDFTFVENVVHGH					863.97	41.98	53.43	2
SIVPTMHYQDSLPR	548.63	28.21	42.33	3	548.64	27.31	42.26	3
PAMPFDLMVYVTNPDGSPAR					726.71	45.89	30.84	3
FC(+57.02)ETTIGSK					521.78	15.09	29.32	2
SLVNLGGSKSISISVAR	563.34	46.94	28.86	3				
VEIEAIAVQGPLTTA(+21.98)					767.44	39.76	36.94	2
LADLLEQSLE(+21.98)ELAQAESK	670.35	63.78	27.84	3				
QEYD(+21.98)ESGPSIVHR					769.89	16.70	23.93	2
GTPLDTGVPLER					627.89	25.68	50.07	2
TYFPHFDLSHGSAQVK	459.24	28.01	63.07	4	611.98	26.91	70.09	3

FLPITPQFVTEVIK					816.49	44.83	25.45	2
GTDELLGVMD(+21.98)QVTIINSTLGK					1113.63	47.01	23.27	2
LYHGTPFR	495.77	12.64	23.31	2	495.78	14.98	40.26	2
LGPNYLQIPVNC(+57.02)PYR	602.00	40.79	31.15	3	902.48	34.28	32.34	2
EIEYEVVR					518.78	20.81	40.28	2
ESGYNMIHFTPLQTLGLSR					722.05	39.69	52.96	3
DMDLVEVNE(+21.98)AFAPQYLAVEK	768.40	57.91	29.24	3				
SFVNDLFER	563.79	37.17	28.06	2				
LLVVYPW					445.27	44.81	32.86	2
GITHIGYTDLPSR	477.27	21.22	41.23	3				
WLLAAAGVE(+21.98)FEEK					742.90	38.56	35.06	2
LLDSSTVTHLFK					680.90	30.80	47.21	2
GAGVTLNVLEMSSEDLEK	946.49	46.41	28.48	2	946.51	38.63	59.39	2
GQYFGELALVTNKPR	564.99	32.55	55.83	3				
YPQLLSGIR	523.82	31.85	36.22	2	523.82	28.58	40.58	2
MIAEAIPE(+21.98)LK					568.83	29.56	27.23	2
IGGTFVDAEGGK					575.82	19.38	44.97	2
EFTPVLQADFQK	711.86	34.58	55.5	2	711.90	31.47	65.15	2
MLALGITGPEGHELSRPEAVEAEATLR	712.64	38.26	34.36	4	712.66	33.48	28.28	4
EAESSPFVER					575.79	17.16	40.14	2
FGMKPTVVLHGYEAVK					444.76	25.55	41.39	4
VEILANDQGNR					614.85	15.84	39.61	2
FADIFAK					406.24	26.70	34.07	2
TVRPAHVEPLLR					463.30	16.89	37.57	3
VPQVSTPTLVEVSR					756.45	28.70	54.82	2
DPLLLEEQLTADEILIR					991.12	48.05	64.88	2
VIQELRPTLNELGISTPEELGLDKV					921.89	42.54	41.44	3
EGNDLYHEMIESGVINLK	687.69	47.37	60.57	3	687.70	38.97	55.59	3
LDQPDPGAVAAAAILR	789.45	42.89	46.02	2				
NVVFSE(+21.98)DEMK					610.28	22.59	26.12	2
IGGVQQDTILAEGLHFR	618.69	38.77	61.65	3	618.70	34.26	71.43	3
LSPSFIDLFR					597.84	42.22	46.4	2
IVYQDLEPVILTIEEAIQNK	776.78	66.82	61.73	3	776.80	49.96	50.21	3
MVEFAGLQDK	569.30	25.64	47.67	2	569.30	26.31	56.88	2
IKNEIDSTLTFR	479.61	23.54	39.94	3	718.92	24.73	48.54	2
LPVQATPEGLDAAFVGVPLDIGTSNRPGAR	755.42	52.42	59.68	4	1006.94	42.21	26.11	3

MEHPELLEK					563.31	17.24	39.66	2
AVINNF(+31.99)SYK					544.29	26.76	26.78	2
IMGPNYTPGK					539.31	17.76	30.74	2
VVLIGGKPDR	527.33	12.51	32	2				
F(sub L)PYTEAVLHEIQR	534.95	24.93	23.32	3				
SFGLPSVGR	460.26	26.72	23.2	2	460.28	26.61	27.27	2
GGAPDTAALDELGLSK					757.94	31.70	42.78	2
VLASPLQR	442.28	15.28	37.4	2	442.29	18.53	38.07	2
LAHLGVQVK					482.82	15.60	34.17	2
TTIQGAEISAPIC(+57.02)IAPTGFHR	747.41	38.77	39.13	3				
GVPLVYEAFNWR					725.89	41.36	60.12	2
DFTATFGPLDSLNTR	827.92	49.69	56.66	2	827.94	39.95	59.48	2
VVLPMEMTIR					594.86	34.26	34.54	2
IIPGVVDGIFLPK	684.42	49.72	37.67	2	684.43	40.16	46.86	2
EQAEAEVASLNR					658.84	18.40	47.9	2
DSADGFLK					426.72	19.67	41.14	2
YIC(+57.02)DNQDTISSK					722.35	15.30	44.3	2
DFTPTDMAEFAAR	736.35	42.25	50.65	2	736.36	35.25	60.98	2
ININSLR					415.26	20.57	24.39	2
ASINLLANHLK	597.37	22.24	33.03	2	597.37	23.68	46.17	2
VLILGSGGLSIGQAGEFDYSGSQAVK	851.79	50.79	82.57	3	851.82	40.72	79.76	3
DLEKPFLLPVESVY	824.96	57.60	24.4	2	824.98	45.16	28.98	2
NLQHQHYPIIMGHEGAGIVESVGEGVSTVK					638.17	31.22	35.15	5
YYGYTGAFR	549.27	22.14	47.77	2	549.27	23.05	47.24	2
EAILAIHK	447.78	13.44	34.89	2	447.79	16.66	36.51	2
YSLDPENPTK					582.32	20.42	35.77	2
YIQD(+21.98)ITASVLK					636.87	30.74	23.53	2
DVAVSYYHFYR	473.91	28.46	39.9	3	710.37	27.58	58.12	2
LEGFHTQISK					580.33	17.09	31.78	2
LVQDVANNTN(+.98)EEAGDGTTTATVLAR					854.47	26.31	40.47	3
FIEQPEDLDK					617.32	21.76	28.89	2
LNLEDVQPHDLGK	493.28	25.73	33.87	3				
LDLDGIIAEVK	593.35	49.13	42.72	2	593.37	40.16	43.35	2
YSVDIPLDK	525.29	28.32	35.65	2	525.32	27.20	34.74	2
LNRPLTLSEK	585.85	12.51	24.58	2				
LNDGHFIPVLGF	664.87	54.21	26.28	2	664.89	43.73	25.97	2

INEAVELMK	523.80	20.64	43.44	2	523.82	22.69	45.55	2
DPQLVPILIEAAK	703.94	51.14	44.22	2	703.95	41.51	49.68	2
YIAELLAHK	529.32	37.71	33.77	2				
AMGEQAVALAK	544.81	16.33	58.35	2				
QADTVYFLPITPQFVTE(+21.98)VIK					1166.16	48.80	31.92	2
VNPTVFFDIAVDGEPLGR	649.36	59.15	28.66	3	973.55	46.00	63.87	2
VVFQEFR	462.77	22.11	36.22	2				
FEYNDPR					470.74	15.27	37.68	2
GTTITSVLPK	508.81	22.61	33.9	2	508.83	24.39	42.82	2
AVQM(+15.99)GM(+15.99)SSVFFNK	739.35	19.95	30.41	2				
AQFEGIVTDLIR	681.40	46.81	44	2	681.40	39.23	64.02	2
VIQIVINR	477.82	23.13	22.92	2				
EAEAVIPD(+57.02)HCVFASNTSALPIGEIATVSK	1009.54	48.48	36.31	3				
VIGVLVADFSLK					630.90	39.80	41.49	2
HLTDAFLDEVK					644.38	27.92	59.22	2
FTGLESVFR	528.29	35.65	35.41	2	528.31	32.81	49.5	2
IMGT(+27.99)SPLQIDR	629.85	29.15	35.39	2				
DHDTFLAVR					537.31	20.67	46.23	2
ILQTALDLLDR	635.88	44.10	28.14	2	635.90	37.51	37.19	2
AVGMPDDIIQK	593.83	25.37	50.19	2	593.83	25.66	47.29	2
LPPGPTPLPLLGN					643.40	41.56	33.11	2
EVLASDLVVK					536.86	26.02	36.85	2
M(+15.99)EFGTAGLR	499.25	15.94	25.27	2				
SLLALEAFHVSHPC(+57.02)R	435.00	56.63	36.28	4	579.66	28.54	42.36	3
IQDSIEITGTFK	676.37	30.55	28.09	2				
VGDEGGFAPNILENK					780.44	30.01	27.83	2
VVDALGNAID(+21.98)GK					597.33	23.50	33.23	2
MVSDLIASGIQPLQNLSVLK					1063.62	45.73	71.18	2
FVHD(+21.98)NYVIR					592.82	18.06	26.52	2
QLTVGVPK					421.28	19.00	26.74	2
HKNEEEVLAINK					475.29	14.13	23.65	3
SVLQHVLGAGPHVK					481.29	21.92	29.85	3
EMVELPLR	493.79	30.00	33.92	2				
TGNLHGQPVSFLLK	504.30	27.40	62.22	3				
GVQDVLEILK	557.35	46.30	39.41	2				
YGDVVLR					411.24	17.94	24.12	2

ALVLISNVEK	543.35	26.68	39.76	2	543.36	27.21	36.74	2
LLQLDIK					421.79	27.60	29.88	2
YLTVAAVFR					520.31	32.27	45.2	2
LPPNVVAVPDVVQAAADADILIFVVPHQFIGK					839.00	49.89	55.51	4
ANATE(+21.98)FGLASGVFTR					781.92	34.21	32.74	2
LAQSN(+.98)GWGVMVSHR					514.95	24.46	38.87	3
ETAEAYLGK					491.27	16.45	33.66	2
IEPSVNFLK					523.82	28.74	25.9	2
MPLSSIHLR					527.31	22.42	49.89	2
GAPLNTPVTEDR					635.34	18.43	43.68	2
LSVQGEVSTFTGK	676.87	30.71	26.28	2				
PHGDYPLIPVGK					646.87	31.28	52.44	2
LPLQDVYK	488.29	22.32	36.53	2	488.30	23.93	39.44	2
FRPTLVFR					518.32	24.67	42.72	2
YLGLQDLAGK	539.32	31.30	48.63	2	539.33	29.57	45.23	2
ESYSIYVYK	576.30	24.69	38.89	2	576.31	25.31	42.89	2
YLGGTHDPVQ					543.78	17.24	33.87	2
LGDPAEYAHLVQAIIENSFLN(+.98)GEVIR	718.16	67.03	25.28	4	957.21	49.67	41.46	3
MALIGLGVSHPVLK					717.93	30.88	60.09	2
SETITEEE(+21.98)LVGLMNK					857.98	36.91	38.7	2
LIDDMVAQAMK	617.83	35.33	54.23	2	617.84	31.42	68.06	2
HGYPLIIYDVFPDAC(+57.02)K					636.69	40.83	42.65	3
YHFPVQFEDVYTALK	619.66	47.61	47.92	3	929.01	39.59	46.58	2
IMDPNIVGSEHYDVAR	605.98	26.55	47.48	3	605.99	25.96	41.66	3
GYGESSAPPEIEEYSLEVLSK					1142.64	40.12	28.02	2
DPLTITVR	457.77	23.94	36.2	2				
GAAQNIIPASTGAAK	685.40	16.52	46.78	2	685.41	19.37	48.58	2
SHEIVLVAYAGLGSQR	567.32	48.15	55.4	3				
GTADFFAVQYYTTR					820.43	36.40	55.86	2
VDVLENQTMDTANELAILC(+57.02)YNPEFEK	1019.51	59.39	29.18	3	1019.54	45.29	27.74	3
FPSFIHSQK	545.80	53.34	29	2				
FSFTLPYPVK					599.83	38.11	45.55	2
GVPTGFVLPIR	578.34	40.55	25.72	2	578.35	35.43	40.11	2
VWPHGDYPLIPVGK	526.64	51.15	54.71	3	526.64	30.97	59.55	3
GEFITTVQQR					589.84	20.62	55.33	2
RDDGSWEVIEGYR					791.43	27.51	47.36	2

LDLETMSTR					533.31	23.29	44.35	2
VMQSSSDAIYLAR					720.89	24.04	54.43	2
AVEILAQEMVTD(+21.98)MPSSFEGK					1102.55	41.83	40.38	2
VAGILTVK					400.78	21.05	28.02	2
VALLQFGGPR	529.32	31.54	32.74	2	529.32	29.80	48.34	2
FASC(+57.02)FYGPFR					626.29	31.26	46.08	2
GAGAFGYFE(+37.96)VTHDITR	593.62	36.02	33.97	3				
AGLGSGLSLSGIVHQELSR	627.69	57.57	24.63	3	627.71	37.02	25.23	3
MF(+31.99)LSFPTTK	552.28	32.67	22.74	2				
GVSVDAAEC(+57.02)TALGLR					759.91	30.21	44.37	2
LMVMEIR					446.27	26.90	28.14	2
TVLGSPE(+21.98)VLLGILPGAGATQR	691.07	58.57	24.94	3	691.07	44.96	25.99	3
IALVITDGR	479.30	24.79	23	2				
VVGNPFDSR	495.77	18.54	49.05	2	495.78	20.93	52.56	2
KTFPTVNPSTGDVIC(+57.02)HVAEGDK					791.43	26.62	39.02	3
DLEAHIDSANK					606.82	14.93	50.72	2
DPFLNALGK	487.78	32.61	47.55	2	487.79	30.26	49.57	2
TIAPALVSK	450.29	15.88	25.17	2	450.30	19.32	31.87	2
APM(+15.99)FSW(+31.99)PR	520.25	22.29	24.04	2				
VDEVGGEALGR					551.30	17.04	49.33	2
ENFEVLC(+57.02)K					519.77	22.10	23.36	2
KVDFVN(+.98)GLHTLC(+57.02)GAGDIR					658.37	29.21	36.17	3
LDAFLVLEQLR	658.89	56.65	39.71	2	658.91	45.15	46.29	2
AVAGIFNAK	445.77	18.13	31.54	2				
DLE(+21.98)DGGLER					513.24	17.73	31.81	2
LSVNSHFMK					531.80	18.03	46.69	2
VADLSPVPVVLY	636.38	55.29	28.16	2				
LASPEEIALLPR	654.89	37.93	27.53	2				
EAIELIK					408.28	24.44	28.53	2
AQFLVEK	417.75	14.79	32.51	2	417.76	17.92	27.17	2
ALEDNM(+15.99)SLDEIM(+15.99)K					770.87	22.66	35.63	2
VVSQPLNYR	538.31	14.54	24.37	2				
NRPTSITWDGLDPGK					828.96	26.22	45.42	2
LK(+130.12)EWVNPNLPFLLEDPVLSAIAK					912.88	49.31	28.52	3
VLGTSVE(+37.96)SIMATEDR					549.28	31.70	27.4	3
GYFIQPTVF	536.29	51.57	26.41	2				

C(+57.02)EFQDAYVLLSEK	801.40	42.29	49.74	2	801.41	36.19	58.56	2
SNYELNDILSQLGIR	578.99	64.51	41.41	3	867.99	47.20	58.6	2
DVVFNYLHATAF					698.88	42.37	25.63	2
SDDHVVN(+.98)GSLVTR					467.26	18.00	44.8	3
AISEHVEDAGVHSGDATLMLPTQTISQGAIEK	827.20	36.72	23.89	4				
AAAVLPVLDLAQR	668.91	43.51	44.82	2				
FGEGIHTAFLK	407.23	25.58	32.69	3				
GYFIQPTVFGD(+21.98)VQDGMTIAK					1105.09	42.43	35.86	2
VMLPAN(+.98)SFQGK					596.83	24.16	36.86	2
ALQASALAAWGGK(+14.96)	629.84	21.00	30.34	2				
GGIMLPEK	422.75	16.71	40.18	2	422.75	20.11	32.66	2
ADLAR					545.30	21.53	23.47	1
TVLIMELINNVAK					729.43	45.87	64.72	2
VSLDVN(+.98)HFAPEELTVK	600.34	37.73	25.41	3				
LEVGTE(+21.98)TIIDK					620.37	25.22	31.38	2
SQIHDIVLVGGSTR	494.63	20.50	43.33	3	741.45	22.95	55.5	2
GVANALAHR	454.76	15.47	30.44	2	454.77	17.96	36.89	2
AATITPFR	438.76	17.22	28.67	2				
VAVLGASGGIGQPL					619.89	35.39	32.44	2
VVDLMVH	406.73	20.89	24.98	2	406.73	23.01	29.81	2
VIGGDDLSTLTGK	638.35	28.85	56.54	2				
IIFGK	577.37	16.35	27.2	1				
FYEQFSK	474.74	15.74	22.62	2				
PLSIEEVEVAPPK	704.41	33.22	35.18	2				
FC(+57.02)ALNWEDQSAVVLATVDK	722.72	54.80	31.58	3	1083.58	43.44	55.07	2
VKENIDILEELK	481.63	33.28	44.94	3	721.96	30.85	45.58	2
VLLPEYGGTK	538.81	21.65	31.28	2	538.83	23.57	34.32	2
MPEFYNR	478.72	17.78	31	2	478.74	20.58	38.47	2
ASASK					463.25	51.74	26.74	1
ILEFFGLK	483.79	45.44	40.23	2	483.79	38.24	38.23	2
SDTSFM(+15.99)FQR	567.76	18.03	35.63	2				
FYGPAGPYGIFAGR					736.87	35.67	54.2	2
NLDLD(+21.98)GIIAEVK					661.37	40.50	41.5	2
NPVNYFAEVEQLAFD(+21.98)PSNMPPGIEPSPDK					1075.57	48.59	24.88	3
Q(-17.03)TPALVVLR	490.31	42.83	31.54	2				
AGDTVGEGD(+21.98)LLVELE					769.89	41.69	37.63	2

AM(+15.99)GIM(+15.99)NSFVNDIFER					888.45	37.90	53.19	2
LFIGGLSFETTDDSLR					885.99	41.17	61.48	2
AVASLNTPFMPSNPK					787.43	29.21	62.61	2
GEVPC(+57.02)TVTTASALDEATLTELK					1153.65	37.07	37.36	2
HVGDLGNVTADKNGVAIVDIVDPLISLSGEYSIIGR	927.52	65.22	46.2	4				
SVNVKPLVTHR	417.26	11.73	54.69	3	417.26	12.89	48.23	3
DPNPM(+15.99)HIDATFNIIGPGLVLSNPDRPC(+57.02)HQIDLFK	772.44	53.21	22.74	5				
AHTLEDFQR					558.81	15.18	35.09	2
ADDGRPFPQVIK	448.25	19.72	34.15	3				
GPFLLGIR	436.78	34.41	32.83	2	436.77	32.11	38.13	2
QLAVLGAGLM(+15.99)GAGIAQVSVDK	672.06	45.62	36.49	3				
LSWWEMQIK					610.83	36.77	40.04	2
EGLEAAGLK					444.27	17.67	34.38	2
VHQILEGSNEVMR	504.60	15.90	51.5	3	504.62	19.56	64.79	3
ASLNMFNK	462.74	18.26	54.95	2	462.76	21.37	53.54	2
IPYSVVR	417.26	16.56	25.49	2	417.27	19.96	32.55	2
AIPPFDIQIIDDK	742.92	49.08	29.14	2	742.94	39.69	40.93	2
EVAAFAQFGSH(sub D)LDAATQQLLSR					787.43	48.45	49.65	3
GSIYSLNEGYAK	651.33	21.81	46.21	2	651.35	23.40	59.42	2
YLSAQKPLLDDSQFR	594.33	27.18	42.67	3	594.35	26.83	52.5	3
VMIGEHIDEKPLPTLEHPIIPADYVAIK	628.57	43.42	49.95	5	628.58	36.46	34.73	5
ELETLLGFPLR	644.38	52.58	39.34	2	644.40	42.77	48.82	2
ADQPIDADVTVIGSGPGGYVAAIK	772.09	46.69	47.56	3				
PM(+15.99)PTPGLTLGK	564.32	29.28	26.47	2				
VVVAENFDEIVNNENK					917.02	31.19	65.01	2
PTGGAGAVAM(+15.99)LVGPEAPLVLER	707.74	48.09	24.98	3				
MQLWAE(+21.98)ILPTK					676.38	39.93	27.41	2
LGETYKDHENIVIAK	433.25	15.61	67.75	4	577.33	19.05	61.18	3
FGVPLGYGGPHAAFF					768.90	41.31	39.69	2
AFLEEFGAEPELAVSAPGR	664.02	48.59	65.99	3	995.54	39.67	66.9	2
KYVLGNPLTPGVSQGPQIDKEQYEK	697.89	28.37	31.44	4				
DFISHFEGLK	596.82	33.80	47.62	2	596.83	31.38	55.96	2
MN(+15.99)QDPVGDEVLHFLLK					624.35	43.26	54.08	3
VNVIASALAQIPQK					726.44	36.44	65.79	2
EADLVFISVNTPTK	767.42	40.16	57.31	2	767.44	34.62	60.27	2
YDGSLVFQQVPMVEIDGMK	719.34	55.31	29.59	3				

C(+57.02)DEPILSNR					552.27	16.68	36.63	2
FSPLTSNLINLLAEN(+.98)GR					930.52	45.82	56.12	2
VVMIEPGYFK	591.83	33.31	32.53	2	591.84	31.16	43.01	2
YQLDKDGVVLFK	475.62	30.90	53.77	3	712.93	29.12	56.62	2
TVAIHSDVDASSVHVK	416.99	14.01	44.82	4	555.67	17.17	48.59	3
DLLLDPAWEK					600.36	36.31	29.27	2
QPIASLPGVAR	554.84	22.86	40.76	2	554.85	24.30	45.34	2
SLLDLVVFGR	559.84	58.68	32.2	2	559.84	45.32	36.73	2
KWNQFYSEVLGR					763.90	29.85	52.37	2
SPLLIFADC(+57.02)DLGK	724.90	46.17	43.24	2	724.91	38.83	47.1	2
MSILGMTPGFGDK	677.34	42.91	39.63	2	677.36	36.71	38.23	2
KEALEFTPF	541.30	37.64	26.77	2				
IGTGK					475.29	29.65	24.2	1
TGIIFM(+15.99)PGTTQM(+15.99)K	728.88	23.41	37.05	2				
M(+15.99)SILGMTPGFGDK	685.34	36.14	29.77	2				
Q(-17.03)DVSPFNVVAWHGNYTPYK					1103.08	40.67	33.4	2
TTNPSTGAVPFQFLR	818.44	41.43	34.31	2	818.44	35.05	69.98	2
ALELDPNLYR	602.33	33.00	44.84	2				
FAFQAEVNR	541.28	22.02	49.84	2	541.30	23.77	50.99	2
MLSLEEDVTEK					647.33	26.30	43.55	2
ADREDDPNFFK					677.32	19.01	37.69	2
ALINADELANDVAGAEALLDR	718.73	64.20	45.46	3				
YQEEFEHFQQELDK					623.99	27.67	29.71	3
PLVEQGTVLADIALSR	561.33	47.54	31.97	3				
DPDMVQNAVSETIK					773.93	30.06	61.05	2
TISGGYAEYALAADHTVYTLPEK	824.10	40.56	46.59	3				
VLYPNDN(+.98)FFEGK	722.36	37.94	30.9	2				
IMNVIGEPIDER	693.38	30.30	50.05	2	693.41	28.39	47	2
KLVIIEGDLER					642.90	25.18	44.47	2
YC(+57.02)AGWADK					485.75	15.46	23.55	2
LYTLVLTD(+21.98)PDAPSR	528.30	37.47	39.94	3				
ALDLAENEMPGLM(+15.99)HM(+15.99)R	620.63	28.14	35.89	3				
AIDLFTDAIK	553.82	39.30	36.69	2	553.83	34.74	52.57	2
LYSPSQIGAF	541.80	40.52	25.43	2				
WLPQN(+.98)DLLGHPK					473.61	28.28	28.76	3
FAELTLK					411.26	24.18	34.54	2

FASFIDK	414.23	20.18	28.98	2	414.24	22.75	33.77	2
AFSPTTVNTGR					575.82	17.23	35.52	2
Q(+109.05)FLGVAEQLHNEGFK	609.34	38.86	29.46	3	609.34	33.75	34.43	3
SFLLNLGK	446.28	33.98	27.78	2				
EVNLAVQDAK					543.81	17.10	42.33	2
VIISLQLTAEK	607.88	34.31	40.52	2				
FVADGIFK	448.76	28.71	26.19	2	448.77	28.21	29.95	2
IMFVGGPNTR					546.30	23.74	45.7	2
KGFIGPGVDVPAPDMSTGER					677.36	29.72	55.61	3
KLEAELEELK					601.36	39.22	23.65	2
NYWDFSFPR					616.34	38.55	40.7	2
GLFTGLTPR	481.29	29.98	30.69	2	481.29	28.66	50.03	2
APIRPDIVNFVHTNLR					466.27	30.71	41.54	4
SYAVVGVPPDIMGIGPAYAIPVALQK					876.17	47.09	50.05	3
STVEIFK	412.24	18.57	31.73	2	412.25	21.74	38.63	2
M(+15.99)LDPAIGEFILVDR	802.94	51.80	25.39	2				
IGLNETLLGIIAPF	735.95	67.40	35.49	2	735.95	50.38	37.39	2
IGAFSYGSGLAASF	674.35	52.78	47.33	2				
SPGANMLQILTK					636.86	33.79	64.74	2
YNSYATALK	515.78	14.03	40.74	2	515.79	17.08	51.22	2
PAYQGSNPISDIWAVHALR					699.05	37.06	53.88	3
AMPDVPAPLTNLQFK	547.98	46.27	27.33	3	821.47	38.55	36.03	2
AFHITNDEPIPF	700.86	42.87	23.77	2	700.87	37.23	24.29	2
TNEQIHQLVAAYK(+21.98)					768.93	22.43	34.32	2
VGPAEVENALAEHPAVAE(+21.98)SAVVSSPDPVR	730.65	40.71	25.78	4				
GENQSPIELNTK					665.35	18.74	53.28	2
LC(+57.02)YVALDFEQEMATAASSSSLEK	850.73	56.63	29.65	3	850.77	44.56	28.91	3
LGGVQFDIDLPNKK	515.31	32.51	49.77	3				
SNFKPSLLAQK					616.86	18.80	37.86	2
LEGLTDEINFYR	735.38	41.33	54.92	2	735.39	35.48	64.51	2
C(+39.99)AVVDVPFGGAK	601.81	44.89	26.78	2	601.83	37.38	30.99	2
LLWTLESLVTGR					694.39	45.15	62.71	2
NTLDC(+57.02)GLQILR					651.87	31.78	36.04	2
QFLLAAEAIDDIPFGITSN(+.98)SDVFSK	900.47	66.31	27.74	3				
GAWVLNR					408.24	21.21	26.9	2
TIEYLEEVAITFAK	813.96	57.99	52.07	2	813.97	45.65	73.92	2

ADMNTFPNFTFEDPK					887.43	37.40	50.17	2
LNDGHFIPVLGF(+21.98)					675.88	43.85	28.98	2
FEVTHDITR	559.29	22.24	41.4	2				
ISQAEEEDQQLLGHLLLVAK	745.43	49.68	56.89	3	745.44	41.21	49.77	3
N(+.98)AGVEGSLIVEK					608.86	26.16	30.65	2
DVQAALTLAR	529.32	27.18	48.22	2	529.33	26.41	51.4	2
TESIAAATEWVK					653.37	29.36	49.27	2
MVVPAALK					414.77	22.52	23.56	2
AMEIADALGK	509.78	24.66	50.69	2	509.80	25.15	43.14	2
AGDLGVDLTSK					538.32	21.86	47.11	2
IFPVET(+79.96)VVEEAIQCAEK	993.00	66.86	22.61	2	993.01	49.78	38.14	2
HTIQGDYIGTMDELADLVGVKPN	829.44	58.94	23.14	3				
TAAYVNAIEK	540.31	15.22	53.91	2	540.33	18.11	43.87	2
DLTDYLMK	499.75	38.97	36.36	2	499.77	33.36	41.04	2
VILDGNILEK	557.34	30.70	32.68	2	557.35	29.05	32.46	2
WAEQYLK					469.26	22.38	26.71	2
LWSTSLRPELVRPALEK					499.55	29.97	24.06	4
QKGEYLPLLQGK	458.61	23.35	28.44	3	687.42	25.60	56.89	2
SLGAEPLEVDLK					635.89	29.97	45.45	2
QAITQVVVSR	550.84	16.95	50.56	2	550.85	19.81	58.46	2
VHAELADVLTEAVVDSILAIK					736.12	50.02	42.15	3
VLDPFTIKPLDK	462.62	35.45	48.89	3	462.63	32.65	42.09	3
SFVNDIFER	563.79	37.17	28.06	2				
LTLSC(+57.02)EEFVK					613.33	27.79	34.51	2
LPAGALLGEENK	606.35	23.13	54.62	2	606.36	24.61	62.18	2
EQGYD(+21.98)VIAYLANIGQK	601.98	55.50	31.16	3				
GLGTDEDAIINVLAYR	860.47	52.76	61.83	2	860.49	42.41	74.14	2
VSPDGEEGYPGELK					738.87	20.47	51.1	2
LPQPEEGATYEGIQR					844.47	23.02	48.57	2
GPSFDVQVGLHELLGHGSGK	509.28	40.61	61.03	4				
IQGGSVVEMQGDEMTR					868.95	23.40	34.62	2
VTNVGDGTTHSTALELFLYLN(+.98)EVAGK					917.52	47.36	35.31	3
IEDVAALDKK					551.34	15.63	44.26	2
AIDAR					545.35	54.74	30.96	1
IVGPWIQTK					521.32	25.79	28.3	2
ELLTLDEKDPR					664.90	21.66	25.67	2

INVNEIFYDLVR	747.91	60.25	45.85	2				
NEIDSTLTFR					598.34	26.79	39.15	2
EFVEEFIW(+3.99)PAIQSSALYEDR	811.75	64.25	32.26	3				
VFDPAHFLDESGNFK					574.97	36.86	53.12	3
AQDTAEFFFEDVR					787.91	36.69	59.81	2
SPWWVR					415.74	26.28	29.35	2
IALTDNALIAR	585.87	30.36	44.05	2	585.87	28.74	46.6	2
DNLAEDIMR					538.77	29.21	41.12	2
N(+.98)LDLD(+21.98)GIIAEVK					661.89	42.75	28.78	2
LSDLHAHK	460.76	39.06	35.28	2				
DIVYIGLR	474.79	34.37	40.54	2	474.80	31.20	41.94	2
DLNLMDIK	481.27	36.12	36.17	2				
PVTTPEEIAQVATISAN(+.98)GDKEIGNIISDAMK					1071.92	46.13	30.14	3
ALNEGGLQC(+57.02)IPK					650.36	23.66	41.07	2
WLPELVER					521.31	31.81	30.76	2
YDDDGEGITLFR					700.85	31.83	53.49	2
GLATFC(+57.02)LDK	512.78	25.95	30.66	2				
QADTVYFLPITPQFVTEVIK	770.44	66.28	54.77	3	1155.15	48.54	53.79	2
FAAEHTIFASNTSSLQITSLANSTTR	923.49	54.81	32.91	3	923.50	34.61	53.32	3
QFNHTHIC(+57.02)AGASAFGK					582.64	17.24	30.76	3
FSTVAGESGSADTVR					742.37	17.49	62.79	2
DFTPVC(+86.00)TTELGR					712.84	33.63	39.99	2
HTLSYVDIK					538.31	19.14	44.49	2
GTEDFIVESLDASFR	562.62	55.96	30.21	3	843.43	44.22	63.32	2
VEFVSELPK	524.30	27.77	37.5	2				
GGVEEGPTVLR					557.33	18.99	42.55	2
AN(+.98)AFVAELK					482.30	25.29	31.94	2
GVVD(+21.98)SDDLPLNVSR					754.42	29.41	24.16	2
GVDEVTIVNILTNR	514.97	51.11	45.67	3	771.97	41.47	71.1	2
LGPDLVDAAQAR	613.35	26.43	40.69	2				
FAIQDISVEETSAK					769.44	30.13	46.31	2
LVN(+.98)ELTEFAK	582.83	33.43	27.82	2	582.85	28.17	26.12	2
YGLAAAVFTK(+27.99)	534.80	31.27	25.94	2				
NALESYAFNMK					644.34	29.82	36.5	2
GLGTD(+21.98)EDAIINVLAYR					871.48	42.44	38.82	2
GVAPLWMR					465.26	28.01	36.49	2

VTLAVSDLQK					537.33	23.84	43.44	2
YITPH(sub D)ELANLYK					731.40	36.27	25.26	2
TVLIMELIN(+.98)NVAK	729.94	49.43	41.44	2	729.95	40.98	55.97	2
LLYAFAEATVPK	661.89	38.17	47.47	2	661.88	32.83	71.46	2
GGGQIIPTAR	485.28	13.84	32.11	2				
LFAGLAHVK					478.29	20.39	33.75	2
TSPVADAAGWVDVDKDTLQHK					751.75	30.10	33.6	3
IPSHVPFLLIGGGTAAF					848.98	44.80	40.45	2
LSDRPQLPYLEAF	774.93	48.00	26.89	2	774.94	40.13	28.83	2
PTLHYFN(+.98)GR	553.29	16.01	36.27	2	553.30	19.32	37.73	2
SLGVSNFNR	497.27	16.26	30.57	2	497.28	19.25	37.87	2
IYFM(+15.99)AGASR	516.26	15.70	34.6	2	516.28	18.71	35.64	2
AAELIANSLATAGDGLIELR	666.72	54.86	56.01	3				
PGFFFEPTVFTDVQDHMFIAR	834.43	65.93	32.44	3	834.45	47.58	45.45	3
PISSVGVLGLGTMGR					722.41	34.26	56.67	2
GGFVLLDGETFEVK	755.90	48.08	49.16	2	755.93	39.92	58.4	2
YFPTQALNFAFK					723.88	39.48	61.15	2
SLYLGPILK	502.32	36.44	29.03	2				
IALLSDLTK					487.32	31.92	24.23	2
YLPNTALDLFK	647.87	45.72	42.9	2	647.87	37.39	47.68	2
NFDLRPGVIVR	429.26	44.37	32.24	3	643.40	27.40	40.97	2
TIVYFPVQGR					590.35	28.79	36.23	2
LFYSTFATEDR	675.34	30.77	53.25	2	675.35	29.22	63.56	2
VTIAQGYDALSSMANIAGYK					691.71	42.77	76.87	3
GGPMFYASTVGLPTVLEK					934.02	40.35	74.47	2
PANFLDLGGGVK	594.33	33.67	39.43	2	594.35	31.53	50.91	2
ALHFVFK	431.26	19.70	29.19	2				
FVMEEGR					434.23	15.69	25.17	2
YGLAATVWSGNVGR					725.89	30.68	60.37	2
AIADYLR	411.24	21.69	27.64	2				
YIYEIAR	464.27	20.76	34.92	2	464.27	22.78	35.92	2
AMGIMN(+.98)SFVN(+.98)DIFER					873.43	42.38	44.22	2
LTAVNHDAAIFPGGFGAAK	619.68	30.90	39.94	3	619.69	29.46	28.74	3
TYETINPTDGSALC(+57.02)QVSLAQVSDVDK	937.80	46.59	40.21	3	937.83	37.48	32.95	3
DEILPTTPISEQK					735.94	27.53	35.59	2
NGIGK					488.27	51.84	24.65	1

SLTAITMWPGK					602.84	32.93	46.53	2
TLDPMAIFFTSGTTGFPK(+21.98)					976.99	47.70	30.08	2
M(+15.99)CH(+57.02)PSIDGFTSR					475.23	18.80	32.3	3
SDTIQTDYVVYMDELASFIGAK					1233.65	49.73	61.16	2
LIDMLSEAGLPVVEATSFVSPK	768.43	63.61	56.7	3	1152.16	48.03	43.11	2
AEGIPVEMVVVGDDSAFTVLK	726.06	58.78	48.06	3	1088.61	45.50	50.68	2
LTYEEVLR	511.79	25.26	36.12	2	511.80	26.03	32.55	2
SIFSAVLD(+21.98)ELK	622.34	57.22	23.25	2	622.36	45.54	37.81	2
VFAAGADIK	446.26	15.11	38.15	2	446.27	18.03	42.78	2
SLHTLFGDELC(+57.02)K	473.92	27.94	33.11	3	473.93	28.05	42.57	3
TTYSDNQPGVLIQVYEGER	723.72	39.37	36.36	3				
FWITN(+.98)GPDADVLVVYAK					955.03	44.22	37.89	2
DDGLMYVTR					535.28	24.68	39.84	2
GVDEATIIEILTK	701.40	55.79	43.84	2	701.43	44.49	61.9	2
SVGEVMAIGR	509.78	20.35	42.64	2	509.79	22.59	48.15	2
LLVVYPWTQR					637.89	35.26	49.73	2
EMILAYK	434.24	20.59	33.94	2				
YVGSMVADVHR					617.33	18.01	66.12	2
ELPD(+21.98)PQESIQR					667.34	21.34	23.35	2
PMQDRPTLFLEVIQR					615.02	35.35	55.28	3
IQGSTIPINQARPNR					555.66	16.78	29.29	3
TANDAGYFDNEMAPVEVK					986.00	30.61	52.58	2
HLDMADLEAK					571.80	20.85	50	2
PAAHFFEK	473.75	24.48	39.16	2	473.77	26.31	40.9	2
LAGDIEAAAVR					543.34	20.77	43.52	2
NKPEWFFK					548.31	24.80	35.81	2
APPTYDALVQME(+21.98)YLDMVVNETLR					897.48	50.10	33.66	3
AVIQVSQIVAR	592.38	36.98	44.21	2	592.37	26.62	53.08	2
SELSGNFEQVILGMMTPTVLYDVQELR					1023.91	50.30	58.67	3
AVEHLDH(sub D)LPGALSELSDLHAHK					797.10	34.09	41.4	3
LANVSTVLTSK	566.85	22.22	25.08	2				
FDNLYGC(+57.02)R	522.74	16.37	31.13	2	522.75	18.91	30.98	2
VNLGVGAYR	474.78	18.07	37.77	2				
FSQFLEK	449.75	17.84	34.18	2	449.76	20.96	37.34	2
VPAINVN(+.98)DSVTK					629.39	22.35	45.9	2
DPDMVWD(+21.98)FW					616.76	50.22	31.66	2

TVLIME(+21.98)LIN(+.98)NVAK					740.94	41.05	27.78	2
TALEEEIASK					545.80	19.30	41.48	2
LVSD(+15.99)EMVLELIEK	767.41	46.89	27.12	2				
EALIDQGDEFLGR					731.91	32.10	46.94	2
NLQLDYVDLYIMHYPMALKPGEELFPK					1079.93	46.09	45.6	3
LVNELTEFAK	582.33	29.92	45.43	2	582.35	28.86	50.44	2
HGPVGLVHVDAH	413.23	12.22	32.04	3				
YYEFLVGVGHPEYPFSEEY					1163.08	44.42	72.79	2
GLVVPVIR	426.80	29.29	31.21	2	426.80	27.90	39.42	2
TQDVNYMFGIVGIPVTEIALAAQEVGIR					1002.25	50.50	55.49	3
YLPAFE(+21.98)NVLK					608.35	34.72	25.59	2
Q(-17.03)VAEVFTGHLGK	634.85	35.40	29.33	2	634.86	32.06	36.02	2
VYALPEDLVEVKPK	533.99	33.70	40.21	3	534.00	31.06	62.1	3
FADIVPLGLPHMTSR(+15.99)					557.32	32.43	28.11	3
FELTC(+57.02)YSLAPQIK	785.42	41.50	23.31	2	785.45	35.38	32.83	2
LFSEFLGK	470.78	42.03	46.6	2	470.78	31.40	43.27	2
LVFGILN(+.98)GR					495.30	34.77	35.78	2
EALQE(+21.98)AGFIIEK					685.40	30.21	30	2
SNDETFITVSR					634.85	23.13	56.25	2
ILEPGLNILIPVLDR					838.04	47.30	63.44	2
LILDEVSLPGSAPGGR	790.96	41.27	39.51	2	790.97	35.01	58.95	2
GYEPD(+21.98)PSITK					564.79	17.48	35.21	2
YEELQITAGR	590.31	20.45	57.73	2				
LISWYDNEFGYSNR					882.45	35.65	74.27	2
IVSPQEALPGR	583.84	19.82	45.39	2	583.86	21.74	43.92	2
AGFALDEGLANPTDAFTVFYSER	831.09	63.09	23.01	3				
LPVQATPEGLDAAFVGVPLDIGTSNR	879.83	59.23	24.56	3				
VPSIKPNAGEESVMNLDK	643.35	26.39	50.34	3	643.36	26.26	55.79	3
IEFEGQSVDFVDPNKQNLIAEISTK					941.19	40.62	55.6	3
TNVN(+.98)GGAIALGHPLAGSGSR	617.35	22.21	45.65	3	617.35	23.40	38.09	3
APPETWVSQGK					600.33	19.13	60.13	2
EGTVTAGNASGVSDGAGAVIIASEDAVK					849.49	34.44	29.27	3
GQTLVVQFTVK	610.36	41.40	36.47	2				
IPAMTIAK	422.76	17.00	36.87	2	422.77	20.33	40.53	2
EQLLALVQDVVDK	735.42	55.65	35.26	2	735.45	44.50	37.84	2
MLLFTEVTR	555.31	36.05	49.38	2	555.33	33.36	48.64	2

VAWVFSR					432.75	27.80	28.76	2
DFSELEPDKFQNK					798.93	26.20	45.7	2
HSQFIGYPITLFVEK	593.68	47.55	47.4	3	593.67	38.97	41.12	3
GSVNMPFMNFLTEDGFEK					1032.01	47.48	58.93	2
MTFSNPSELDELMSEEAYEK					1175.59	39.94	48.32	2
ALAISDLNR	486.79	20.70	37.73	2				
GLALLEELLPK	598.39	64.11	46.47	2				
VYGVGSLALYEK	649.87	33.49	38.55	2	649.88	30.92	53.23	2
AVEHLDDLPGALSELSDLH	677.69	50.09	35.53	3	677.71	40.73	30.86	3
IYQQNPEAYSHTER					579.32	14.85	30	3
GSLDSLPQAVR	571.82	22.96	35.75	2				
MINLSVPDTIDER	751.90	37.87	32.41	2	751.91	33.11	43.34	2
LSFLLLEK	481.81	50.55	27.4	2	481.81	36.36	33.13	2
ANNTFYGLSAGIFTN(+.98)DIDK	688.02	52.06	25.06	3	1031.54	41.60	55.42	2
MEGAQILC(+57.02)GEGVDK					753.88	25.08	40.82	2
TGIIFMPGTTQMK					712.88	32.53	52.88	2
FFESFGDLSTADAVMNNPK	697.35	48.75	70.2	3	1045.52	39.20	74.54	2
AISPDKDNFYFEVK	558.29	29.42	32.26	3				
ALDLFSDNAPPPE(+21.98)LLEIINEDVAK					882.49	49.05	42.86	3
NTISYPPMC(+57.02)SQDPVGAQLLSDLFTNR					975.52	48.33	29.44	3
LPNVEFVGGLH	591.34	37.03	43.17	2	591.35	33.02	48.3	2
EQADFAIEALAK					653.38	32.50	41.53	2
HAD(+21.98)GIAVVGVFLK					674.40	34.48	24.16	2
GLGTD(+21.98)EDTIIDIIAHR					880.98	40.55	33.89	2
VFSSALNPWNK					631.84	29.25	33.85	2
E(-18.01)LADPSSIR					485.28	17.84	29.83	2
KYTPEQVAM(+15.99)ATVTALHR	483.77	28.35	66.77	4	644.69	27.20	55.38	3
LN(-17.03)DGHFIPVLGFGTFAPR	647.70	63.30	38.34	3				
QNLIAE(+21.98)ISTK					569.83	26.54	39.13	2
SPILLGSQAHQIYR	528.31	22.39	58.28	3	528.31	23.32	43.66	3
GFEIAQGR	439.24	14.54	26.62	2				
FTITPPTAQVVGVLK					785.97	37.43	29.4	2
EGLYITE(+21.98)EIYK					690.39	32.11	37.95	2
LPTGYYFGASAGTGDLSDNHDIISMK					910.81	36.20	46.98	3
YYGGTEFIDELEVLC(+57.02)QK					1032.53	44.45	38.67	2
VLSWDVAN(+.98)GVAR					644.36	29.65	45.85	2

TLVLLMGK					437.78	29.30	32.47	2
M(+15.99)PYTD(+14.02)AVIHEIQR	534.95	24.90	34.02	3				
AMVASGSELGK					525.30	15.21	39	2
C(+39.99)LMEGAGDVAFVK	690.33	51.79	30.78	2				
NRPSSGSLIQVVTTEGK	591.67	23.01	39.51	3	591.69	24.93	57.22	3
EPLFGISTGNLITGLAAGAQVYK	774.11	62.39	57.33	3				
GSTLTEILEGLK	630.87	48.69	34.61	2	630.89	40.79	43.37	2
GYAVNVFDIR	577.32	37.13	52.81	2	577.33	33.57	58.17	2
DAVLQELFYFR					700.90	46.25	50.18	2
ADVWLIR					436.77	29.84	35.66	2
KMPGAFDWSPVVK					731.40	30.80	42.29	2
THAVLVALK					476.32	17.43	42.05	2
TVL(sub M)GDHGDELFSVFGAPFLK	717.05	58.93	30.26	3	717.07	45.81	30.87	3
DHLLLATME(+21.98)AMN(+.98)GGK					812.41	32.30	40.17	2
MPILGLGTWK					558.32	36.58	43.72	2
LALNIADDM(+15.99)LK	616.84	31.46	23.52	2				
ELLAIPDNYK	588.33	32.43	33.55	2	588.34	30.15	32.17	2
LLIEHQGISFLLAEMAM(+15.99)K					687.38	43.17	40.22	3
VFITDDFHDM(+15.99)M(+15.99)PK	543.26	24.24	26.31	3				
VTLELGGK	408.75	16.55	37.26	2	408.76	19.49	36.52	2
LILADALC(+57.02)YAHTFNPK					616.34	37.90	33.84	3
VSTM(+15.99)EIIK	468.76	13.34	25.77	2				
KFYGPEGPYGVFAGR	548.96	30.81	29.77	3				
C(+42.01)LQ(+.98)D(+14.02)GAGDVAFVK					690.35	41.53	29.87	2
ANDTTFGLAAGVFTR	770.90	42.16	53.3	2	770.93	36.15	64.96	2
VTIAQGGVLPN	534.82	29.39	28.29	2				
LQLETEIEALKEELLFMK	726.43	63.96	43.69	3	726.43	48.38	30.38	3
ALEHFTDLYDIK	488.93	33.42	49.08	3	732.90	30.73	51.17	2
VVIPK					555.30	56.66	24.38	1
NIVVVDGVR	485.80	19.25	35.21	2	485.81	21.79	32.6	2
LGSHFWGFQTHDVLPDIVTMAK					625.60	39.83	35.32	4
VQAVVAVAR	456.80	13.52	25.35	2	456.81	16.30	27.84	2
VTPVELHDYVQNHFTSAR	529.04	30.75	33.07	4	529.05	29.11	29.49	4
SLLETLQK					466.30	24.37	28.54	2
QEAFIPFSAGR					611.84	30.69	36.1	2
LVLEVAQHLGESTVR	551.00	31.49	42.19	3	826.00	29.36	67.35	2

PFGVALLFGGVDEK	724.90	54.91	32.59	2	724.92	43.38	40.58	2
AFITHGGSN(+.98)GVYEAIYHGIPMVGTPLFADQADNIAR					951.76	44.93	25.22	4
VGVN(+.98)GFGR	403.72	15.18	34.98	2	403.74	17.31	35.11	2
LHLGVTPSVIR					596.38	24.32	29.75	2
YHTEIVFAR					568.32	20.71	40.73	2
TQIDHYVGIAR	424.91	17.25	26.67	3				
GPLLVQDVVFTDEM(+15.99)AHFDR	735.72	44.31	47.84	3	735.72	37.70	34.64	3
ILIVGGGVAGLASAGAAK					762.96	32.83	71.11	2
WNDYDRPEEFNFASDVLDHWTQMEK					793.90	45.07	35.65	4
FFEFLTK	466.26	40.22	37.87	2	466.26	34.24	40.69	2
SVMEPMC(+57.02)LEAWLDGHR					644.33	40.66	30.26	3
VPPVQVSPLIK					588.89	27.70	50.15	2
KVLDSFSN(+.98)GMK	613.82	16.43	44.24	2	613.83	19.30	45.42	2
Q(-17.03)ATVGDINTERPGMLDFK					988.02	34.35	33.98	2
LMATLSNTNPSFVR					775.92	28.26	56.36	2
ASHLPSDFTPAVHASLDK	474.01	23.44	48.55	4	631.69	24.67	44.25	3
LILGLMMPPAHYDAK					557.31	35.27	57.24	3
DETVWEKPFR					653.85	26.08	56.85	2
AAFQLGSPW(+31.99)R	582.81	30.27	30.03	2	582.81	28.37	31.08	2
M(+15.99)PHQLFIGGTFVDAEGGK	640.67	31.62	29.14	3				
SVDPSHAAVVNR					626.38	13.28	48.84	2
PGVVDGIFLPK	571.34	49.87	42.13	2	571.34	40.29	54.64	2
LNFLQSIAGK	545.82	36.94	46.24	2	545.82	33.13	39.57	2
YGIIC(+57.02)MEDLIHEIYTVGK					718.73	47.87	28.66	3
QTALVE(+21.98)LLK					518.83	31.24	36.65	2
TTLTAAITK	460.29	15.14	30.43	2				
IDAMHGVVGPYVK	462.60	23.90	52.17	3	462.61	24.71	59.16	3
EGTVLLADNVIYPGAPDFLEYVR	851.14	64.00	51.44	3				
VLSN(+.98)GVEFSR					554.83	21.89	28.21	2
GYSFGHPSSVAGEVVFNTGLAGYPEALTDPAYK	851.19	52.28	32.58	4	1134.60	41.73	28.22	3
EIRPALELLEPIEQK	593.35	41.03	38.2	3				
LAINN(+.98)GPNSLHGGVK	497.95	16.91	36.56	3	497.96	19.87	40	3
SLAMEM(+15.99)VLTGDR	669.84	30.79	52.31	2	669.85	29.34	54.06	2
TMGIDDLTGEPLVQR	822.94	39.92	48.78	2	822.98	33.74	67.65	2
IIDSLFNTVTDKK	498.63	31.38	48.82	3				
EAYMGNVLQGGEGQAPTR	626.65	25.98	84.37	3				

VTNVGD(+21.98)GTTHSTALELFLYLNEVAGK					924.50	45.77	35.46	3
MTSE(+21.98)NLLNALK					628.35	31.58	27.83	2
FLVLNYK	448.77	28.19	27.71	2	448.77	27.77	24.92	2
VLQALEGLK	485.81	24.89	26.17	2	485.82	26.24	32.44	2
IGHFQLMQGK					579.82	19.82	63.08	2
LMFND(+21.98)FLLASGDTQTGIYK					719.38	44.31	27.57	3
FNVIQPGPIK	556.84	26.94	37.13	2	556.85	26.74	39.37	2
IQSLLEGQK	508.30	15.45	32.39	2	508.31	18.29	34.29	2
LVQDVANNTNEE(+21.98)AGDGTTTATVLAR					861.48	25.84	32.23	3
LGEYGFQNALIVR	740.41	39.79	57.5	2	740.43	34.61	73.29	2
LGLGLEFQA	474.28	47.97	27.28	2				
DGGSTTAGNSSQVSDGAAAILLAR	740.38	40.05	70.19	3				
MNFLTEDGFEK					665.85	31.46	29.27	2
WFLDPQNLESYGVDPGR					997.02	43.33	69.51	2
HVLVTLGEK	498.31	13.29	48.39	2	498.32	16.71	54.9	2
VQDDEVGDGTTSVTVLAAELLR	763.41	61.54	47.2	3				
FPHFDLSHGSAQVK	523.95	27.57	39.91	3				
LVQDVVFTDEMAHFDR	641.33	40.96	30.72	3	641.33	35.55	29.17	3
AFALEVIK	445.79	30.31	32.47	2				
AWNIM(+15.99)VLK					495.79	29.27	27.05	2
GDVGMAGVAIDTVEDTK					839.46	32.00	58.69	2
VVLVLELQGLQK					669.94	37.43	37.37	2
AVGM(+15.99)PDDIIQK	601.82	16.62	36.18	2	601.84	19.11	35.93	2
HPEANLC(+57.02)LK					541.32	14.53	34.65	2
DTSYLFITGPDVVK	777.93	46.99	58.7	2	777.94	38.44	61.61	2
GAAQNIIPAS(+27.99)TGAAK	699.40	18.97	25.85	2				
DPEAPIFQVADYGIVADLFK	736.74	66.92	71.37	3	1104.62	49.88	78.34	2
LATSALEEIVAAGVTPAVK	614.04	52.37	45.62	3	920.57	42.34	52.58	2
WLNENAVEK					551.82	19.24	42.25	2
KLDSLTTSFGFPVGAATLVD(+21.98)EVGVDVAK					953.55	46.80	40.85	3
WPVELVEK	500.29	30.05	42.88	2	500.30	29.30	40.93	2
TIDWVAFGEIIPR	758.92	58.27	37.24	2	758.95	45.69	60.25	2
QGWLMEVTDSLDR					775.40	40.82	56.12	2
GPLLVQD(+21.98)VVFTDEM(+15.99)AHFDR	743.03	44.29	30.77	3	743.05	37.86	41.24	3
VVDLMVHMASK	410.57	22.71	23.81	3	410.57	24.18	45.84	3
LVIITAGAR	457.30	19.88	34.99	2	457.30	21.76	30.05	2

VDPVNFK	409.74	15.07	36.16	2	409.74	17.82	32.81	2
YVYIAELLAHK	440.60	36.89	61.85	3	660.38	33.04	60.06	2
LAEVALAYAK	524.82	24.35	55.95	2	524.83	25.09	57.95	2
FDHILYTGNTTVGK	522.62	21.55	44.69	3	783.44	23.29	52	2
IEVIEIMTDR					609.87	33.60	37.86	2
IMEFFFLK					537.80	42.81	42.33	2
IITMLPTSINAIEAYSGAN(+.98)GILK					797.79	46.21	50.43	3
A(+42.01)GSGFESLEQC(+57.02)LEK					798.92	39.54	27.94	2
WLPQNDLLGHPK	473.27	25.73	40.24	3	473.28	26.41	44.8	3
YISGFGNEC(+57.02)ASEDPR					851.42	21.59	43.47	2
FFESFGDLSTADAVMNN(+15.99)PK	702.68	42.58	38.79	3				
GIGFVIVR	430.78	30.45	31.94	2	430.78	29.31	43.82	2
ADIAR					545.30	21.53	23.47	1
VM(+15.99)IGEHIDEKPLPTLEHPIIPADYVAIK	631.77	41.95	34.56	5	631.78	35.70	40.39	5
GLLSSLDHTSIR					649.89	26.86	60.02	2
QGIQYVFQTR	620.34	26.86	41.17	2				
MDATANDVTSDR					648.30	14.13	56.57	2
PSSIEAIPSIIEK	692.41	36.03	35.88	2	692.42	32.63	39.32	2
ASTQSLAEVLQ(+28.03)					587.85	25.78	26.21	2
GILIGIQQSFR	616.37	37.12	36.17	2	616.36	33.08	44.47	2
M(+15.99)QLLEIITTEK	667.88	35.83	28.41	2				
IPDWFLNR					530.81	34.93	38.09	2
LGSIAIQGAIEK	600.37	25.39	52.35	2	600.38	25.71	56.51	2
VVAFTGDNPASLAGMR					803.45	31.95	59.42	2
SALALVTGAGGGIGR	650.39	32.08	49.42	2	650.39	29.34	38.63	2
VGLAEAFAQVLVR	686.91	54.33	28.96	2	686.90	43.27	55.92	2
EDAQVAAEILEIADTTSGDK					1038.56	42.61	55.27	2
FSSPTTIATVMNLSK					798.93	35.18	60.35	2
LLFGK	577.37	16.35	27.2	1				
YGIQMPSFSK					579.31	30.07	48.88	2
QFEHLDVTMR	425.89	20.78	23.9	3				
DLFSEAHSE(+21.98)FLK					722.86	33.87	36.17	2
QDTFALASQQK					618.86	18.95	58.2	2
YSHLVDVGQVGVNVPIPVPLPM					1165.67	47.44	40.38	2
IEWLESHQDADIEDFK					659.02	32.24	39.56	3
VLEVYTTQPGVQFYTGNFLDGTLK	897.49	62.28	42.04	3				

VTIAQGGVLPNIQAVLLPK					966.09	50.24	74.46	2
Q(-17.03)PIASLPGVAR	546.32	38.33	29.14	2				
DWAHYLK					466.76	24.06	40.31	2
VDIVAINDPFIDLHYMVY	713.05	65.51	26.57	3	1069.09	48.75	39.7	2
DQGTYEDYVEGLR					772.89	30.48	51.19	2
DTTPDELLSAVM(+15.99)TAVLQDVK	721.39	66.72	39.9	3				
LHFAVASR	450.77	13.45	44.98	2	450.78	16.02	38.1	2
SVGMIAGGTGITPMLQVIR					951.03	40.99	71.99	2
FAGTWYAMAK					573.29	28.05	50.32	2
HRPELIEYDK					433.93	14.72	39.62	3
TSIAID(+21.98)TIINQK					669.90	30.49	41.24	2
GAAFLGLGTDSVR	632.35	33.04	32.91	2				
VATPVDWK					458.27	21.29	34.82	2
ILGVLALIDQGETDWK					886.03	47.13	56.74	2
EIPSDAPWK					521.81	22.76	27.9	2
GEGGILIN(+.98)SQGER					665.85	20.55	28.38	2
AMIVEAYPK	511.28	19.29	24.16	2	511.30	21.79	34.4	2
LKDEEVAQLK					586.86	14.73	37.44	2
TYDSY(+1.00)LGDDYVR					734.37	26.60	30.97	2
SVLLEMQK	474.27	19.25	28.33	2	474.29	22.17	33.26	2
AADETWEPFASGK					704.87	27.82	53.12	2
FLFPFFDSAYQGFASGSLEK					1129.58	48.62	58.59	2
IGPVPAISGALK	561.86	32.04	27.25	2				
DQE(+37.96)GQDVLLFIDNIFR	654.01	67.24	22.63	3				
PLTPGVSQGPQIDKEQYEK					705.39	21.77	27.92	3
IVTSLLSIPLSLLPPVK					895.60	49.24	38.77	2
GTHMENVYDFYKPDVTSEYPLVDGK	726.86	40.65	55.77	4	726.87	34.65	29.79	4
S(+42.01)SSAMPDVPAPLTNLQFK	649.01	56.80	38.09	3	973.03	43.98	32.55	2
NTGTEAPDYLATVDVNPK					953.03	29.57	52.79	2
AADNIGYPVMIR	660.36	30.85	47.15	2	660.37	29.39	55.23	2
LKGEMMDLQHGSLFLQTPK					725.08	31.61	31.56	3
YGLSPSPVAPQMFGNAGK					910.98	32.58	70.7	2
PAFIFDGR	461.77	27.51	37.27	2	461.77	27.86	36.47	2
GETDEEYLWC(+57.02)IEQTLYFK					1162.56	47.38	43.93	2
VSVMSYSAK					486.27	17.51	37.06	2
TLATLNPESSLFIIASK					903.04	42.44	52.6	2

DWMTESFSSLK					665.83	37.95	45.61	2
GYVPVAPIC(+57.02)TDK	660.35	25.03	30.55	2	660.37	25.37	31.11	2
N(+109.05)LPFLLEDPVLSAIAK					925.04	48.96	39.18	2
YGIDEYLELK	621.83	40.77	41.04	2	621.84	35.13	61.58	2
NENTFLDLTVQQIEHLNK	719.40	51.91	29.24	3				
VATVSLPR	421.77	15.92	31.72	2	421.77	18.77	34.65	2
AFNADFH					411.21	18.65	26.48	2
VPFSLLR	416.26	29.83	32.4	2				
MQHNLEQQIQAR					499.28	15.95	48.18	3
DVDLEFLAK					525.32	34.67	38.77	2
KQTALVELLK	571.87	23.45	36.13	2	571.88	24.99	45.5	2
LPVLLEDSVLC(+57.02)AIAK	820.98	56.95	26.74	2	821.01	45.21	37.83	2
LTLSALVDGK	508.82	33.11	44.15	2				
NIEDVIAQGIGK	628.85	39.02	48.5	2	628.87	33.82	52.95	2
EADIDGDGQVNYEEFVQMMTAK	830.73	58.16	79.74	3	830.73	44.82	80.78	3
IFTSIGEDYDER					722.87	26.22	40.72	2
DVFVAIVQSVK(+21.98)					613.87	38.51	24.68	2
YIAPTILTDVDPGTK	802.45	39.25	46.59	2	802.47	34.35	53.74	2
GEAGPAGPAGPAGPR					631.36	13.72	41.16	2
N(+.98)LDLDGIIAEVK	650.87	54.52	29.04	2	650.90	42.70	42.41	2
DSTLIMQLLR					595.35	42.34	53.24	2
MDATANDVPSPYEVR					832.94	25.12	41.45	2
GIPPYPYTG	482.75	28.83	31.87	2				
C(+97.02)LIGCGFSTGYGSAVK					830.40	35.50	27.24	2
LFYGNVIER	555.81	27.08	46.19	2	555.83	27.13	52.8	2
AC(+57.02)LGEPLAR					493.79	18.34	24.85	2
VDLLSFTGSTQVGK	726.40	39.86	63.44	2	726.43	34.49	62.18	2
DMTPEQLDDILK					709.40	36.78	40.73	2
VLILGSGGLS(+1.00)IGQAGEFDYSGSQAVK					852.16	41.26	35.02	3
TVIIEQSWGSPK					672.89	26.32	53.83	2
YVTLVPSNLPHAVVQDTK	661.05	47.45	29.63	3	661.06	31.27	60.8	3
DIPVPEELVFTVDEK					865.51	43.36	42.17	2
SVIDYQTHFR	422.56	18.73	28.69	3				
NVETMNYADIER					727.86	24.32	57.54	2
QQVPMVEIDGMK	687.86	31.04	27.25	2				
SAVPLNLIGLK					562.87	35.67	25.14	2

SLQDIIAILGM(+15.99)DELSEEDKLTVSR	897.83	63.89	31.41	3				
EALELLK					408.28	24.44	28.53	2
NGVAIVDIVDPLISLSGEYSIIGR	834.14	66.84	82.56	3	834.17	49.84	70.09	3
AGIAHLYGIAGTTNVTGDQVK	696.05	28.61	29.1	3				
LIPDDVMTR	530.29	23.46	30.63	2	530.30	24.16	29.8	2
PSFIHSQK	472.27	53.27	27.66	2				
AIYQQAQC(+57.02)LLK	668.37	38.06	23.97	2				
ITLEDVISHR					591.85	29.69	56.73	2
SATQSAEITIPVTF	732.90	52.02	30.04	2				
AADYAAQAAQLR	624.83	18.52	56.76	2	624.84	20.73	67.2	2
M(+109.05)ILGYWDIR					638.34	43.98	29.07	2
AISFVGSNQAGEYIFER	944.50	43.15	47.3	2	944.51	36.55	68.73	2
SPILLGSQAH	511.79	17.85	27.08	2	511.81	20.67	29.84	2
TLYSSAENEPPVPLVR	591.32	33.53	64.26	3	886.50	30.73	68.4	2
MFLSFPTTK					536.28	35.45	55.65	2
TVIQAEIDAAAELIDFFR					1011.58	50.67	68.58	2
LDDKDYFLFR					666.37	35.27	46.74	2
TLGIDFIDVATK	646.88	46.44	55.47	2	646.89	38.57	57.84	2
GQILTM(+15.99)ANPIVGN(+.98)GGAPDTAALDELGLSK	947.51	54.35	30.68	3				
SVAGEIVLITGAGHGIGR	569.67	38.07	60.38	3	854.02	34.16	64.1	2
IITHPNFN(+.98)GN(+.98)TLDNDIMLIK					762.42	38.31	45.72	3
TVVVKPAEQTPLTALHM(+15.99)GSLIK					588.10	28.26	26.05	4
LTPIGYIPDEDALDLR	900.99	49.56	29.58	2	901.01	40.31	50.15	2
LSSVDPS(+27.99)HAAVVNR	493.93	14.52	25.84	3				
ALAEALM(+15.99)GLGYR	640.86	35.75	52.74	2	640.87	31.70	51.52	2
GVM(+15.99)LAVDAVIAELK	722.92	53.59	34.05	2	722.94	43.80	50.22	2
ASAELALGENNEVLK					779.46	26.80	42.77	2
TLVLLDNLNLR	642.39	53.77	32.61	2	642.42	39.04	44.72	2
AAVLEVM(+15.99)TAFR	612.34	38.71	41.96	2				
YPNLISYSYMPR					752.38	34.49	41.08	2
LQAFQGYQVTM(+15.99)K	715.38	23.01	46.55	2	715.38	23.30	46.23	2
APLAEQWDLMTMK					767.41	37.35	73.45	2
LQEELSALR					529.84	22.48	27.77	2
VHLVGIDIFTGK	433.60	39.86	47.64	3	649.89	33.84	60.98	2
PVILPPEVAIGALGTIK	563.37	56.55	24.01	3	844.54	44.53	37.2	2
AGPNIYELR	516.79	21.62	44.43	2	516.80	23.69	37.18	2

Q(-17.03)TQEYEALLNVK	709.87	46.13	38.62	2	709.89	37.98	40.9	2
VLAVNQENEHLMEDYER					697.04	25.75	33.14	3
NIIGYFEQK	556.31	31.35	27.77	2	556.32	30.17	36.06	2
LFLQGPK	401.76	19.08	28.18	2	401.75	20.84	30.44	2
ALEALVAK	407.76	16.57	30.87	2	407.77	19.63	31.32	2
EELTAVMSFLTQK	748.90	53.98	43.63	2	748.92	43.41	66.89	2
AQYEEIAQR	554.29	12.71	39.09	2				
AQTAHIVLEDGTK					461.61	15.77	53.76	3
YTWTDVGQLVQK					719.40	33.86	52.01	2
GPAGK	429.25	17.12	22.97	1				
LGAGYPMGPFELLDYVGLDTTK	786.41	66.30	65.1	3	1179.14	49.30	57.3	2
AGPEADAQFHFTGIK	530.28	26.03	25.82	3				
ESLIDGIK					437.77	23.81	30.3	2
FFFGGYELSR	611.81	42.06	28.39	2				
TFEE(+21.98)SFQK					519.25	17.78	29.88	2
IILLAEGR	442.79	22.95	26.39	2	442.80	24.86	31.84	2
LYELAADLQLPDLQLK	615.03	58.30	35.54	3				
LNSFLGDDIFLR	705.39	50.51	46.96	2	705.41	41.58	57.35	2
MVTEEDIQFYVQEFK	635.99	53.68	52.12	3	953.50	42.84	□□.97	2
FFNEVFK	465.75	29.20	45.37	2	465.77	28.96	39.08	2
AYQIDTVINLNVPFEVIK	692.73	61.18	32.17	3				
TAVDSGIALLTNFQVTK(+21.98)					900.50	41.60	31.57	2
VVVLVATVR	478.32	23.48	29.67	2				
GALPLDTITFYK	669.88	44.21	32.28	2	669.90	37.65	44.21	2
WV(sub I)PQNDLLGHPK					468.61	23.99	29.51	3
AVTIASAVNC(+57.02)PLYVVH	857.46	41.20	34.54	2	857.49	35.23	35.07	2
KEYGGLDVLVNN(+.98)AGIAFK					637.04	37.15	38.73	3
SVTEFN(+.98)GD(+21.98)TVTSTMTK					870.94	25.98	36.25	2
LSDYLFTLAR					599.84	35.89	41.05	2
SPDMLEIEFK					604.84	33.44	36.81	2
LPYSVVR	417.26	16.56	25.49	2	417.27	19.96	32.55	2
YDGIILPGK	488.29	25.44	50.58	2	488.30	26.03	44.12	2
EIVTNFLAGFEA	655.85	62.46	43.64	2				
AQYEEIANR					547.30	14.64	42.11	2
GLLPEELTPLILATQK	579.37	63.15	35.4	3	868.54	45.27	62.13	2
TLLEGEESR	517.27	13.13	29.05	2				

IGASFLQR	446.27	20.83	45.56	2	446.27	22.17	46.05	2
TPGFDVAGIIEAVGESVSAFK	698.72	67.28	24.12	3				
EFT(-18.01)PVLQADFQK	702.89	49.54	23.55	2				
TC(+57.02)GFDFTGAIEDISK	830.89	48.98	51.12	2	830.91	39.65	52.28	2
GIYETPAGTILY	649.34	46.28	42.17	2				
PHFDLSHGSAQVK	474.93	27.77	40.6	3				
AGVAN(+.98)ALAHR	490.77	13.63	31.48	2	490.79	20.48	33.22	2
DALYFLDDK					550.31	34.04	33.74	2
VVNVSSFVSVN	575.82	39.92	40.96	2				
PYNPSMSKPDAWGVTK					593.32	23.27	43.65	3
GTVADFPGFDER					655.85	29.55	29.51	2
LASYLDKVR					532.83	18.57	24.03	2
EYLPIAGLAEFC(+57.02)K					755.92	40.70	40.98	2
GVSEIVQN(+.98)GK					516.28	15.26	35.79	2
M(+15.99)AGTLPEYR	527.27	13.97	38.45	2	527.28	16.75	30.84	2
VSQLYMNPK					540.31	17.46	46.5	2
GGETVLVSAAAGAVGSIVGQIAK	685.73	64.56	49.18	3	685.72	48.23	70.85	3
LPGTIYTAAEEIK	703.39	32.42	52.76	2	703.41	30.49	63.44	2
AVNTLNEALEFAK	710.40	36.69	66.05	2	710.41	32.98	59.26	2
IVGGNAAQLAH	525.80	13.67	22.52	2	525.81	16.00	37.09	2
FYALSAR	414.24	17.58	25.15	2	414.24	19.42	34.73	2
DILIVVGNEIIEAPM(+15.99)AWR					1028.08	47.86	26.62	2
YKPESDELTAEK					705.36	13.97	48.04	2
PLFVNVNDQTNEGIMHESK	724.70	30.21	24.77	3				
VVAGVANALAHR(+14.02)					596.35	20.68	54.18	2
GYSFSLTTFSPSGK	739.87	40.41	39.07	2				
IGISGDSAGGNLAAAVAQQLLEDPDVK	870.49	62.09	55	3	870.52	46.94	61.81	3
T(+79.97)DQAAFDTNIVTVTR	577.96	43.95	23.6	3				
DLQNR					645.29	52.45	25.72	1
TLGIDFID(+21.98)VATK					657.88	38.62	46.48	2
LEDTLWTGLTDTHVQMPM					1044.54	44.66	39.81	2
VGDYGYPFDTILSSR					845.45	40.13	50.58	2
VAGVANALAHR	539.82	15.42	53.23	2	539.82	17.93	52.3	2
FYAISAR	414.24	17.58	25.15	2	414.24	19.42	34.73	2
TVELPPLK	448.78	23.08	30.61	2	448.80	24.82	34.2	2
LISEVIGER	508.30	21.49	34.59	2	508.31	23.24	41.15	2

ILFGK	577.37	16.35	27.2	1				
QAVLGAGLPISTPC(+57.02)TTINK					971.06	33.04	32.29	2
SGYHQAASEHGLVVIAPDTSPR					573.82	22.29	23.68	4
IIEEAPGPGIKPEVR	535.66	19.34	50.33	3	535.66	21.63	49.07	3
RGAEVHVVPWNHDFTK					473.77	21.82	48.19	4
DVHYFVLEK					575.32	26.43	54.61	2
SVFAGVGER					461.27	19.17	25.19	2
EKVDLVLLGK					557.37	26.29	43.89	2
ADM(+15.99)VIEAVFEDLNLK	574.98	60.24	33.16	3	861.96	46.63	49.11	2
ANYLSQALQAGTVWVN					867.98	44.64	37.64	2
FAHTNVESLVNK	453.59	16.56	46.44	3	453.60	20.02	37.7	3
AFYPEEISSMVLTK					807.95	39.32	52.18	2
GLN(+.98)SESITEETLKK					775.45	22.10	36.79	2
LQLETEIEALK	643.88	38.23	52.41	2	643.91	33.56	40.03	2
VPASR	529.30	63.10	26.05	1				
TPFGAH(sub Y)GGLLK	549.32	16.70	36.98	2	549.32	19.50	49.11	2
SYVMDIK					428.25	20.70	33.34	2
FMANLMK					427.73	22.95	39.59	2
FNFATDVIDHWAGMEK					627.66	42.12	41.64	3
YVWLVYEQEGPLK					812.46	37.78	70.94	2
LISWYDNEFGY					703.86	43.78	33.11	2
LLSLAFTDPK					552.84	32.52	37.44	2
ASAELALGEN(+.98)NEVLK					779.92	28.29	41.4	2
SLRPESLHQVSFLFSDR	505.29	36.30	33.31	4	673.38	31.20	58.4	3
GFLDTMLIEM(+15.99)AK	692.87	47.00	50.25	2	692.88	39.02	45.38	2
GFP(+15.99)GADGVAGPK					544.81	18.04	24.18	2
VINEPTAAALAYGLDK	823.46	37.29	44.12	2	823.48	33.14	65.87	2
YMLSIVQDILR					675.89	45.08	58.56	2
ELEALISDR					523.30	25.18	38.93	2
ILVTGGSGLVGR	564.85	23.90	24.98	2	564.85	23.62	36.81	2
THPGQNQLFADLSR	528.62	22.84	33.25	3				
LPSNVVEGSAR	564.82	13.67	31.09	2				
M(+15.99)M(+15.99)FPIFLGQR					636.33	36.43	42.64	2
FFESFGD(+28.03)LSTADAVMNNPK	706.68	51.44	34.89	3				
DGVVVFTLGSM(+15.99)IK					691.40	37.09	42.89	2
DAYEELLTQAEIQGNINK	683.70	47.99	41.58	3				

IAYEFVEMK					565.30	29.47	25.58	2
VETTEDLVAK					552.81	16.89	48.03	2
SPALFIYTSGTTGLPK					826.96	34.99	50.59	2
VTVVYAED(+21.98)GK					551.80	16.52	30.67	2
ASGNYATVISHNPETK	563.62	13.93	51.69	3				
LGPALATGNVVVMK	685.41	32.52	48.24	2	685.40	29.46	66.62	2
AGDLGVD(+21.98)LTSK					549.31	21.98	32.71	2
DESNYLDDALMR					721.36	33.13	43.46	2
A(+42.01)GKPTLHYFN(+.98)GR	468.59	19.47	49.3	3	468.60	21.86	36.59	3
AVLHVALR	439.80	14.72	24.7	2	439.80	17.52	35.57	2
GQETSTNPIASIFAWTR					939.98	45.25	77.59	2
GINGK	488.30	27.63	26.9	1				
LSALLPEPLK	540.84	33.87	37.84	2	540.86	31.79	42.87	2
KVPQVSTPTL	535.32	22.39	32.53	2				
APN(+.98)SPDMLEIEFK					746.41	35.19	40.05	2
LTLYDIAHTPGVAADLSHIETR	599.09	46.22	63.82	4	798.46	38.24	79.33	3
VSLDPHAQVAVGILR	525.65	32.93	58.65	3				
GAPTTSLISVAVTK	672.91	38.81	34.55	2	672.92	28.90	64.93	2
VFEHDSVELK					601.84	17.85	55.04	2
EPVVLALAE(+21.98)K					545.85	29.00	28.89	2
ALGATDC(+57.02)LNPK	580.31	14.89	39.05	2	580.33	17.54	40.91	2
VASGC(+57.02)LDINSSVK					675.36	20.54	37.65	2
DGSIDLVINLPNNNTK	863.97	43.25	48.8	2	863.99	35.90	54.21	2
PMYSNPPIN(+.98)GAR					659.35	20.50	37.96	2
IWISN(+.98)GGLADIFTVFAK					927.01	49.56	42.36	2
APPLTLEGIK	519.83	26.95	25.86	2	519.83	27.28	35	2
FGVIFAGAQK	519.30	27.28	48.88	2	519.31	27.14	48.97	2
QTGVLLYQAYGQSEAGISCGTLRG	824.76	40.86	24.07	3	824.79	34.92	29.72	3
KVPQVSTPTLVEVS(+27.99)R	556.66	26.47	30.64	3				
NMFEFLR					478.76	35.35	28.48	2
DRLDMPYLDAVVHEIQR					690.72	41.09	62.92	3
KWEFVSAFR					585.32	29.33	41.34	2
YLSFNSDHMTFLQR					586.97	31.98	31.79	3
PGALSELSDLHAHK	492.26	38.74	51.86	3	492.28	34.12	58.22	3
M(+15.99)AENLGFLGPLK	653.36	36.80	44.24	2				
PPLEDSR					407.23	18.42	27.98	2

LAPSPPIVDTAQGR	711.41	21.91	31.26	2	711.42	23.14	27.91	2
KFSDIQIR					503.81	17.83	34.17	2
SDTIQTDYVVYM(+15.99)DELASFIGAK	828.08	64.11	26.14	3				
AEVLDGAHLMR	404.56	19.59	29.95	3				
VVPFDSEEEVIQR					773.95	28.83	28.02	2
GSFITDTEQR					577.30	18.33	33.06	2
FAVLQTYGDTTHTLVEK	641.69	31.58	47.44	3	641.70	29.35	40.75	3
GMGTNEDALIEILTTR					867.47	43.56	54.07	2
VFQSSSNYAENFIQSIISTVEPAQR					939.16	49.39	44.55	3
ETSGNLEQLLLAVVK	807.46	61.79	29.11	2				
LPDGSEIPLPPILLGK	830.00	58.37	28.8	2	830.02	45.55	60.93	2
IVEIPFNSTNK	631.36	26.67	28.53	2				
LFVEESIYDEFVR	823.42	52.53	54.24	2	823.44	42.57	63.57	2
LIFPYVELD(+21.98)LHSYDLGIENR					810.12	46.04	27.79	3
TFPTVNPSTGDVIC(+57.02)HVAEGDK	748.71	34.66	24.87	3				
FLPGPLFMK					525.30	50.12	52.54	2
HSPSIHQSVVSVSR	507.28	11.73	30.07	3	507.29	13.94	34.79	3
DTTPDE(+21.98)LLSAVMTAVLQDVK	723.38	67.99	33.81	3				
TDDSQPWVLPVVR					756.43	36.47	54.83	2
VFVTSGLGGMSGAQAK					755.42	25.71	69.5	2
QAMTPEFR					490.27	18.31	33.58	2
TFIAIKPDGVQR	448.94	20.88	33.94	3	672.91	22.61	52.76	2
MGATLPEYR	519.27	18.92	34.29	2				
LENYPIPEPGPNEVLLK	641.36	42.53	28	3	961.55	36.07	49.46	2
AVVDVPFGGAK	530.30	26.06	23.8	2				
GFPTIYFSPANK					671.35	33.41	53.54	2
DVGILAME(+21.98)VYFPAQYVDQTELEK					894.15	48.78	24.41	3
SLYSMIK					421.25	24.67	31.38	2
NN(+.98)GAGYFVEHLAFK	523.27	39.90	34.69	3	784.42	34.86	42.73	2
TLAESALQLLYTAK	761.44	54.13	38.18	2				
FLPGPLFLK					516.32	40.28	62.86	2
Q(-17.03)LGLTHYR	485.78	20.85	31.99	2	485.78	23.10	37.13	2
VLDWIC(+57.02)R					481.27	29.02	33.79	2
AAVLEVMTAFR					604.35	36.29	57.53	2
SLQDIIAILGM(+15.99)DELSEEDK	712.38	64.84	53.13	3				
DGASEEE(+21.98)INLSK					657.31	18.78	48.75	2

ANTIASALAQIPQK	475.96	34.84	41.76	3	713.43	30.64	65.03	2
ADNGK	504.28	15.48	23.52	1				
VLGDVIEVHGK					583.35	21.00	49.47	2
GAAVD(+21.98)VDLER					533.78	20.01	32.26	2
SLVPLMGEVR	550.83	34.52	26.58	2	550.84	32.05	34.23	2
DMDLVEVNEAFAPQYLAVEK	761.06	57.85	55.02	3	1141.11	44.38	61.48	2
EC(+57.02)EVLPDDTVSSLYNR					949.00	31.23	30.86	2
AFVDFLSDEIK	642.34	48.38	43.01	2				
DFNVGH(sub D)YIQAVLDR					823.93	48.75	26.91	2
LFNLYPR					461.76	27.45	35.83	2
DIEEIIDELK					608.84	43.63	23.78	2
WVDGIEQFK					561.31	29.00	24.5	2
QTALVELLK	507.83	32.41	37.35	2	507.84	31.10	44.23	2
PFVELDT(+79.97)SLPAGR	741.37	67.37	28.61	2				
SGVDADSSYFR					602.31	20.81	44.24	2
DGEVLLEALYLTVD(+21.98)PY					916.49	51.44	35.85	2
DTN(+.98)GSQFFITTVK	729.87	37.66	50.83	2	729.89	32.82	52.73	2
AERPDGLILGMGGQTALNC(+57.02)GVELFR	892.13	52.98	38.17	3	892.17	42.30	41.94	3
VLQATVVAVGSGSK	658.40	19.85	59.13	2	658.40	21.27	66.4	2
DSVVAGFQWATK					654.87	33.17	57.97	2
NLAENISR					458.77	14.92	23.57	2
NLHLDYVDLYIIHFPLAMKPGEELLPK					795.46	45.86	51.13	4
AVINEKTYK	533.31	27.80	26.99	2	533.30	26.65	27.48	2
FPDENFK					448.73	19.29	41.67	2
GQGSVALSVTQDPAC(+57.02)K	809.42	19.19	42.15	2	809.46	20.91	38.27	2
EVIDLLK	415.27	30.49	26.11	2				
VAFTGSTEVGK	548.31	14.50	45.2	2	548.31	17.23	52.28	2
DGLILTSR	437.77	20.98	34.09	2	437.77	22.45	30.26	2
QYGDIFTLLLGGK					712.90	47.97	48.3	2
GYPHWPAR					492.27	17.69	30.19	2
NILYMASETIK	641.86	34.09	35.49	2	641.87	31.60	56.12	2
KEEILQILK	557.37	24.58	28.76	2				
FDPGHFLDK	538.27	25.76	45.84	2	538.29	26.13	44.86	2
AGGYTPNPTYK	584.79	12.57	31.91	2				
DPEAPIFQVAD(+21.98)YGIVADLFK	744.06	67.01	28.25	3				
ASGTN(+.98)DKPGGPHYVLR					557.30	14.32	26.31	3

LPESFDAR					467.76	18.62	25.97	2
LPVALDPGAK	490.80	21.29	47.91	2				
VPIVKPQVASWELSVK					594.03	31.17	61.42	3
VLQDLVMDILR					657.90	45.78	51.93	2
SDPIQELHDLAEITTPDR					684.05	40.53	26.41	3
ITAFVVER					467.79	23.34	40.49	2
FADIVPLGLPH	589.85	46.76	28.4	2	589.86	38.97	36.61	2
DMLC(+57.02)SQEETFGPVAPVIK	674.35	45.65	50.8	3	1011.04	37.51	56.83	2
IALGIPLPE(+21.98)IK	593.38	55.26	24.8	2	593.38	39.13	33.3	2
HPVLLEDPVLSAIA(sub S)QK					865.54	35.20	24.48	2
LSPLAQELR	513.81	21.59	40.02	2	513.82	23.89	36.59	2
LPEGIPLLLK	546.87	52.98	39.71	2	546.88	38.10	49.15	2
LLILADMADVYK					682.91	40.95	37.23	2
LHVDPEN(+.98)FK					550.31	21.01	31.33	2
HELIEFR					472.29	20.58	45.2	2
RPLVIEEVTPR	436.94	19.33	35.61	3	654.91	22.38	44.55	2
QAD(+21.98)TVYFLPITPQFVTEVIK	777.77	66.32	24.98	3				
FLVQSGIHDSFVK	492.95	26.56	41.24	3	492.96	26.92	27.42	3
AILGVSLAVC(+57.02)K	565.84	34.89	22.49	2				
FDAGELITQR	575.32	29.71	61.21	2	575.32	28.01	51.54	2
IFSYDPENPPGSE(+21.98)VLQIQNILAEEPK					983.86	46.56	34.08	3
THSDQFLVTFK	441.58	23.99	37.2	3	661.87	25.74	72.79	2
STGYGAVINNAK	597.82	14.33	28.04	2	597.83	17.34	38.55	2
FSALQYLR	499.28	32.16	24.25	2	499.29	30.26	34.35	2
IEDVAALDK					487.28	19.08	46	2
GHEITVLVPSQSLLIDR	626.38	39.77	63.23	3	626.38	34.84	62.67	3
C(+57.02)LGLTEAQTR	574.81	15.04	45.81	2	574.83	17.88	39.96	2
IVVLLQR					420.79	23.89	23.46	2
ADMVIEAVFEDLNLK	569.64	64.14	55.22	3	853.97	48.50	62.93	2
ALESPERPFLAILGGAK	590.36	44.41	43.63	3	590.35	36.68	57.95	3
LVPVGYGIR					487.31	23.97	30.56	2
LGEH(+26.02)NIDVLEGNEQFINAAK	746.40	41.85	44.61	3				
ISGLIYEETR	590.83	22.55	43.45	2	590.84	24.19	47.21	2
MLLYTEVTR					563.33	27.47	30.15	2
KLGATTHVFVVDC(+57.02)SNR					602.00	19.71	31.6	3
RFEELGIK	496.29	15.13	29.62	2	496.30	18.77	32.46	2

LSDRPQLPYLESF					782.94	38.80	31.43	2
LVIIEGDLER					578.87	28.42	35.16	2
IAMGAFDK	426.72	17.72	37.29	2	426.74	20.53	35.42	2
GWDENVYYTVPLVR					855.97	37.99	55.05	2
HPYFYAPELLYYANK	630.33	43.76	60.64	3	944.98	36.35	57.31	2
LLRPELEELR	634.39	39.22	34.8	2				
VSVVDLTC(+57.02)R	524.79	22.50	24.6	2	524.80	23.67	24.97	2
FMANLM(+15.99)K					435.72	17.03	25.73	2
KYVLGNPLTPGVSQGPQIDK	704.41	30.69	54.67	3	704.41	27.79	52.42	3
TGAIVDVPVGE(+21.98)ELLGR	549.64	45.86	32.94	3				
AATFGLILDDVSLTHLTFGK	707.09	64.96	25.08	3				
ESILDGLK					437.77	23.81	30.3	2
HFFTVTDPR	560.30	18.23	36.03	2	560.31	21.21	48.46	2
GETGPAGPAGPIGPVGAR	780.92	21.17	60.84	2	780.94	22.72	67.23	2
LLVVDPETDER					643.35	24.59	37.98	2
GYEVIYLTEPVDEYC(+57.02)IQALPEFDGK	983.48	61.75	42.26	3				
GYWGGPAFLR					562.30	32.98	48.87	2
YPVGVHFLPK	578.84	24.18	54.44	2	578.84	24.77	63.66	2
ALM(+15.99)LQGVDLLADAVAVTM(+15.99)GPK	715.73	62.43	45.48	3				
LPFPIIDDK	529.31	37.98	47.72	2	529.33	34.11	51.93	2
GIYETPAGTILYHAHLDIEAFTMDR					945.50	45.08	40.15	3
HTQVVEELTEQLEQFK	653.34	45.99	52.77	3				
YKPVSNQVEC(+57.02)HPYFTQPK	556.30	16.35	25.23	4				
VPDFSDYR					499.77	22.72	29.17	2
YQVQTQEN(+.98)YEAFMK					890.47	29.76	37.95	2
EMEEFVQSSGEDGIVVF					951.49	44.43	37.65	2
GN(-17.03)FDEALAAHK					578.32	24.01	27.31	2
TNLPSNTALR	543.81	14.09	31.91	2				
VYGIESHVLSPGETK	539.29	21.70	53.88	3				
AITAE(+21.98)NLAVK					526.31	20.35	27.21	2
SDFVFNFPR	564.79	41.07	34.51	2	564.81	35.92	41.89	2
VFLENVIR	495.30	31.34	46.19	2	495.31	29.96	41.92	2
TNAENEFVTIKK	465.26	14.45	24.38	3				
GFGLVEHVLGK					578.36	30.14	54.51	2
FDDENFILK					570.82	30.58	45.49	2
AEELGLPILGVLR	690.42	56.04	38.68	2	690.45	45.12	67.44	2

FENAFLSHVISQHQALLSK					723.73	34.15	75.29	3
NHGVVMPDANKENTLNQLVGAAFGAAGQR					745.66	37.15	60.26	4
EGMAAFVEK					491.27	21.26	40.6	2
STGSVVGQQPFGGAR	724.39	17.89	50.48	2	724.41	20.42	66.37	2
ALLANALTSALR					607.37	35.17	39.4	2
LPPGPTPLPILGN					643.40	41.56	33.11	2
TVQQHAGETEPVATMR					585.66	14.41	33.08	3
IYAGQMAVLGR					589.86	25.75	37.16	2
IFDANTKPNLNLQVLSNPEFLAEGTAIK	1019.92	62.13	28.49	3	1019.93	43.36	49.12	3
DLENAQFSELQVEQQPPPIK					770.79	34.55	34.42	3
HLSSGDLLR	499.28	13.15	44	2	499.30	16.45	34.09	2
FLPLFDR	454.26	37.85	33.59	2	454.27	33.47	33.82	2
A(+57.02)CADPAAGSVILLENLR	590.66	46.84	33.66	3				
TFEGIDPK					453.75	18.38	38.06	2
GLVALITGGASGLGLATAER	609.69	54.46	99.68	3	914.03	42.97	83.03	2
TALLDAAGVASLLTTAEVVVTEIPKEEK	717.92	66.65	55.2	4	956.91	49.85	55.7	3
NFTGEEIK					469.25	15.60	29.7	2
YTPEQVAM(+15.99)ATVTALHR	602.00	49.96	43.97	3	602.01	33.27	34.33	3
GSEEPPVFLEIHYK	548.97	34.68	62.7	3	548.97	32.23	48.39	3
VMVDANE(+21.98)VPIQK					682.90	23.42	32.59	2
VITIMQNPR					536.32	20.81	42.44	2
DRPFFAGLVK					575.34	29.68	40.57	2
VTIAQGYDALSSM(+15.99)ANIAGYK	697.04	42.39	25.04	3				
IPFYIFSESYGGK					754.39	38.36	61.41	2
DLVNMLFYHDR					711.88	38.11	57.9	2
VLWEDPAR					493.30	23.63	32.14	2
SNIDNM(+15.99)FESYINNLR	615.98	46.32	43.67	3				
AALSELHC(+57.02)DK	572.29	23.26	25.05	2				
ILLLGAGESGK	529.33	25.89	22.85	2	529.34	26.85	26.45	2
AAQKPDVLTTGGGN					664.89	14.93	42.13	2
LMNESLMLVTALNPHIGYDK					753.75	40.67	58.17	3
LMQFQGLK					482.78	24.91	32.07	2
IEFEGQSVDFVDPN					798.42	38.18	37.29	2
VLDELTLTK	516.31	26.40	23.9	2				
DALLFPS(+27.99)FIHSQK	510.96	54.96	27.33	3				
AGASFNPELLTNVLDGSPENTR	768.07	52.17	30.23	3				

EELEELIGK					530.30	28.13	25.69	2
LPFPPSYVPVMFSELSDR	694.37	65.27	52.18	3	1041.06	47.36	35.51	2
DMDLVE(+37.96)VNEAFAPQYLAVEK					773.73	44.50	32.48	3
ITLPAPNPDHVGGYK	526.97	23.54	37.83	3	526.98	24.31	38.42	3
KTVTAMDVVYALK					719.92	31.22	70.37	2
VFDKDGNGYISAAELR	585.64	27.02	37.8	3				
QHLQIQSTQSSLNE(+21.98)VIQNLAATK					858.48	37.61	36.42	3
EYGGLDVLVNNAGIAFK	890.48	53.74	44.87	2				
VSHLLGINVTDFTR	524.64	38.21	44.96	3	524.64	32.71	58.72	3
YLGGTDDPVKK					596.85	13.68	44.63	2
EFFVGLSK	463.77	29.86	40.76	2	463.77	29.07	36.11	2
ISNIPTIK					443.30	20.51	31.03	2
VNPLGGAVALGHPLGC(+57.02)TGAR	639.69	30.87	23.44	3	639.69	28.54	34.58	3
GMSLNLEPDNVGVVVFGNDK					1052.57	41.57	56.52	2
LEKEEQIPDGMC(+57.02)IDVEGK					697.37	27.21	31.71	3
LEASIEHLR					534.33	17.70	48.13	2
PGGLLLGDE(+21.98)APNFEANTTIGR					722.06	37.36	33.95	3
LYPPVPVISR					570.87	29.64	44.37	2
LITPAVVSER					542.85	23.54	38.39	2
YLGTQPEPH(sub D)AVGLDSGHIR					683.05	25.72	42.94	3
ALASLM(+15.99)TYK	507.28	17.32	29.95	2	507.30	19.84	30.01	2
LVVMQPEK	472.27	14.44	34.14	2	472.29	17.48	35.04	2
AFTGYLGTDQSK	644.33	20.07	43.12	2	644.34	22.16	58.14	2
ELISNSSDALDK					646.34	19.90	41.51	2
GLLLITGR	421.78	28.71	31.98	2				
YGIVDYMMEQSGPPSK					901.45	35.88	69.8	2
QMIGYNLATK					569.83	23.62	28.72	2
SAPVKPGIPYK					578.85	15.82	36.58	2
DQEGQDVLLFIDNIFR	641.35	67.15	58.66	3	961.53	50.26	53.19	2
NS(-18.01)NVGLIQLNRPK	478.95	18.09	34.94	3				
TSIDAYDNFDNISLAQR	648.33	41.26	36.72	3				
S(+42.01)SSAM(+15.99)PDVPAPLTNLQFK	654.35	50.34	29.98	3	981.04	40.29	27.14	2
GFLDTMLIE(+21.98)MAK					695.87	46.73	36	2
AYIDKVEELK					604.38	21.40	49.11	2
AFAISGPF	405.22	45.12	28.32	2				
LQGDVAGALEDLER					743.43	33.83	34.66	2

SLDLDSIIAEVK	651.88	52.85	51.4	2	651.89	42.61	56.67	2
IQEAGTE(+21.98)VVK					548.30	14.09	23.79	2
LQGAQMLQMLEK					695.40	35.00	45.96	2
AENAC(+57.02)VPPFTVEVK					780.92	29.66	32.9	2
TALHMGSLIK	535.81	18.73	35.03	2	535.83	21.80	46.7	2
FGLGSIAGAVGATAVYPIDLVK					1060.11	46.97	66.8	2
AITIFQER	489.29	23.32	40.86	2	489.30	25.12	39.39	2
FLEEATR					433.25	15.42	27.77	2
IMQLSAPHC(+57.02)K					592.83	16.28	30.51	2
VISHAISEHVEDAGVHSGDATLMLPTQTISQGAIEK					936.27	31.51	51.08	4
VGNLTVVAK	450.80	13.88	53.67	2	450.80	16.77	49.05	2
LLVPYLM(+15.99)EAVR					660.39	35.27	28.18	2
FFVGGNWK					477.75	27.52	31.9	2
LVSDYMAK	463.74	14.92	31.12	2				
ENIDILEELK					608.35	35.53	36.98	2
DFFSVILK					484.80	42.56	33.04	2
TALHM(+15.99)GSLIK	543.81	11.98	23.31	2				
QVITLLN(+.98)ELK					586.37	33.82	27.39	2
LREEGHEVVGVFTVPDKDGK	553.56	20.04	76.59	4	553.57	22.68	74.32	4
FLLDGDEVIMTGH	723.86	45.75	31.05	2	723.88	37.77	25.33	2
VHQILEGSNEVM(+15.99)R	509.94	12.43	48.99	3	509.95	15.53	47.55	3
DVFVAIVQSVK	602.83	45.93	40.63	2	602.87	38.42	48.71	2
TDSVAAATEWVK	639.34	27.48	25.99	2	639.37	26.49	51.7	2
HPEYAVSVLLR	428.59	26.36	45.78	3				
NSIPFELR	488.28	27.71	25.63	2				
AGLILFGN(+.98)DGR	567.32	39.96	29.22	2	567.32	34.77	33.74	2
IVGYFVSGC(+57.02)DPTIM(+15.99)GIGPVPAISGALK					912.47	44.36	28.64	3
TIEAEAAHGTVTR					678.39	13.53	28.94	2
LADLLEQSLEELAQAESK	994.02	63.72	68.04	2	994.05	48.20	73.22	2
FTPGTFTNQIQAAFR					849.95	37.66	56.86	2
GNLANVIR	428.77	15.20	38.74	2	428.77	18.70	48.93	2
AIDGLN(+.98)SNMR					546.30	19.70	33.44	2
MQLWAEILPTK					665.39	39.73	41.65	2
TALIHDGLAR					533.82	16.78	35.99	2
TMQTLLALVK					559.33	36.34	50.15	2
DQYIEQFK					535.79	22.26	35.6	2

FLDEIITPVMR					667.39	38.51	38.35	2
TVTAMD(+21.98)VVYALK					666.87	36.82	40.46	2
VLGTSVESIM(+15.99)ATEDR	812.41	24.47	51.16	2	812.43	24.81	55.46	2
VRPVSSAASVYAGAGGSGSR					612.68	16.73	37.64	3
VSALSVVR	415.76	15.96	30.39	2				
YLPGPQQQAFK	638.85	19.21	22.47	2	638.87	21.66	31.61	2
LISYSYMPR					565.30	25.51	39.68	2
VVDLM(+15.99)VHMASK	415.90	17.18	25.31	3				
SGNPVDFFPILK					667.39	41.70	40.9	2
VVEIAPAAHLDPQLR	543.66	28.69	45.51	3	543.67	27.93	42.84	3
IIWELIK					457.80	34.97	27.54	2
DVNLASFIEQVAVSMT	862.44	68.78	47.84	2				
VMNILHR					441.77	16.15	31.02	2
GLNGK	488.30	27.63	26.9	1				
DFT(+27.99)PTDMAEFAAR	750.34	42.04	26.56	2				
TGIPIVTSPYQIHFTK					601.34	33.85	38.07	3
FVEFFGPGVAQLSIADR	618.35	60.18	27.53	3	927.01	42.59	65.8	2
KHGFDVALNYK	431.24	14.94	36.87	3				
GLWGLVNNAGISTPTAPNEWLTK					813.78	44.19	38.42	3
DFTPSGIAGAFQR	683.85	40.51	37.78	2				
IGC(+57.02)FALSEPGN(+.98)GSDAGAAATTAR					732.40	28.92	25.61	3
VSMVEPGYFR	592.81	27.82	55.24	2	592.82	27.45	51.38	2
GAEVHVVPWN(+.98)HDFTK					579.65	26.74	46.9	3
FSLMTLR					434.24	30.94	23.95	2
WNLLQQQK					529.31	24.10	43.3	2
VLEWMFNR					547.79	34.64	51.12	2
EVAIFGAASELFTK	741.91	52.91	55.16	2	741.93	43.02	61.63	2
LFIGGLSFETTEESLR	899.99	50.48	66.25	2	900.01	41.26	51.82	2
LDPTQTSFLK	575.32	27.00	32.32	2	575.34	26.37	35.51	2
IIVVSNPVDILTY	723.42	62.95	37.64	2				
ELHINLIPNK					595.88	26.58	43.72	2
SVDDYQEC(+57.02)YLAMVPSHAVVAR					804.08	34.04	43.54	3
MSMPEALAAATINAAYALGK					665.36	48.32	60.88	3
VDLVLLGK	428.79	32.16	35.57	2	428.80	30.58	34.42	2
VEIIAN(+.98)DQGNR					615.33	17.23	27.38	2
ETVLDIVPTDIHQK	536.64	33.87	47.54	3	804.47	30.84	61.15	2

NVPEELSGAGLDYLAYSIAMEEISR					909.82	49.12	52.11	3
VPINDGN(+.98)GEAILK					670.90	25.01	36.49	2
LQYVDNIR	510.79	18.43	37.04	2	510.80	20.93	38.7	2
FTMELAK	420.23	20.23	37.86	2	420.24	22.69	38.13	2
VAVLTGLPFVTAPNK					763.96	38.52	49.08	2
M(+15.99)AEDLILYGTK	635.33	28.00	36.82	2				
TALLDAAGVASLLTTAEVVVTEIPK	828.17	67.64	75.4	3	828.18	51.12	64.82	3
LEIPEYFNFAK	685.88	48.19	25.06	2				
LYTLVLTDPDAPSR	780.94	37.42	55.5	2	780.94	33.21	63.16	2
KLSLELGGK	472.80	14.74	33.45	2				
PAILTYER	481.78	17.81	31.13	2	481.79	20.76	30.67	2
PLLM(+15.99)VHGWPGSFYEFYK					696.34	40.32	25.77	3
VNVPVIGGH	446.26	22.90	25.21	2				
QTMQVDEHPRPQTTMEQLNK	603.57	16.56	44.5	4				
AYGGAYDVM(+15.99)SSK	632.79	12.81	32.32	2				
SLLVTLASHLPSDFTPAVHASLDK					840.48	41.15	56.79	3
LAAVDHIN(+.98)AVIR	431.59	21.95	28.13	3				
FTDEEVDELYR					708.35	27.66	68.49	2
REDLLNNAAHAGK					470.29	13.49	29.6	3
GTLEDQLSHLK					620.86	25.40	48.06	2
TGPAASTLSDGAAAEALVESSEVAVIGFFK	965.86	66.83	61.36	3	965.90	49.95	54.74	3
FNSANDDNVTQVR					740.39	16.17	56.42	2
LDVAPISD(+21.98)IIAIK					695.44	41.76	25.06	2
FAPPQPAEPWTF					694.37	42.27	34.24	2
RPEMGDQALMPF					696.35	34.15	25.65	2
IGAE(+21.98)VYHNLK					583.33	16.36	24.28	2
VAGALAE(+21.98)AGVGLEEITDR	598.33	44.21	31.63	3				
LEGLTD(+21.98)EINFYR					746.39	35.51	27.85	2
DQVANSAFVER					618.33	19.08	33.78	2
IM(+15.99)GLDLPDGGHLTHGFM(+15.99)TDK	547.53	31.96	25.61	4				
VNTLIRPDGEK	414.58	12.25	28.55	3				
L(+144.10)KEWVNPNLPFLLEDPVLSAIAK					917.55	49.18	29.81	3
EILDQFTEEVVK					725.42	35.59	47.41	2
AFAISGPFNVQFLVK	819.47	57.00	31.36	2				
LTLDTIFVPNTGK	709.92	48.70	35.36	2	709.93	36.58	56.59	2
LM(+15.99)FNDFLLASGDTQTGIYK	717.37	52.23	34.7	3				

GFPVYSHVDPK	415.89	16.13	22.89	3	623.34	19.77	53.31	2
ILEELTYVAK	589.85	32.76	53.16	2	589.86	29.89	49.94	2
DLGEAALNEYLR	682.37	42.44	56.9	2	682.37	35.58	62.58	2
AEMWLIR					459.77	30.65	39.49	2
DGDDVIIIGVFK	645.86	50.92	49.91	2	645.88	41.12	60.38	2
LGIWGFFSTGDEHSR					570.29	38.77	60.22	3
NNLGELINTLNAAK					742.94	37.11	59.96	2
GFIQVYVDQVDADIVAVTR	703.40	65.39	27.64	3				
NFLASQVPFPS(+27.99)R	695.86	39.05	23.59	2				
LDFNLIR	445.77	35.08	25.52	2				
NLLHVTDTGVGMTR	505.28	23.61	60.47	3	505.29	24.63	60.68	3
DGGPR					501.27	20.03	25.73	1
PDVAIYDGSWFEWFHR					675.68	45.21	41.38	3
TPSPLSYVPR					558.83	28.31	50.81	2
VFLE(+21.98)NVIR					506.31	30.12	28.9	2
LQQLFR					402.76	20.54	29.44	2
LESQPAIHQVLK					454.95	18.98	47.35	3
YQQAGLPLIVLAGK	735.94	44.21	43.85	2	735.94	37.54	69.07	2
SETITEEELVGLMNK					846.98	36.82	56.34	2
HQPFLGYR	509.28	14.12	28.16	2	509.29	16.73	27.5	2
PPNLTGYYR					540.79	21.39	38.38	2
AAFQLGSPWR					566.81	30.87	42.07	2
KLSSDYGVLK					555.33	17.26	33.75	2
EELKPIAF					473.80	28.79	31.77	2
YAAELHLVHWNSK					523.30	24.51	52.87	3
IFGSEAAWK					504.78	25.02	37.79	2
VLEM(+15.99)SSEDLEK					648.32	15.96	30.35	2
ESGLYFIR	492.77	29.24	30.9	2	492.78	28.82	33.11	2
LDVAPISDIIAIK	684.43	51.01	43.37	2	684.45	41.47	57.95	2
SLRPESLHQVSF					700.40	24.56	24.55	2
LPDNVTFEEGALIEPLSVGIHAC(+57.02)R	879.80	51.40	29.36	3	879.83	41.64	62.91	3
LEAYHTQTTPLVEYYSK	681.69	27.58	49.18	3	681.71	26.97	54.26	3
TILEELVTR	537.32	36.36	40.68	2	537.33	33.23	44.81	2
LLVQDVVFTDEMAHFDR	679.02	48.68	44.47	3	679.04	40.32	42.08	3
MVAPSMASR	475.25	13.33	25.72	2				
DSYEFFTEVK					632.83	32.58	50.88	2

VSPETVDSVVVGN					651.37	27.93	37.56	2
YAMQMEQLN(+.98)GVLLHLESELAQTR					892.49	46.22	55.55	3
LKPVIGVNTDPER	479.95	17.21	59.22	3				
VIHDHFGIVEGLM(+15.99)TTVHAITATQK					659.36	36.53	48.92	4
DM(+15.99)AIATGGAVFGEEGLNLNLEDVQPHDLGK	782.40	53.09	44.21	4				
TVEIVDSVEAYATMLR					898.99	44.94	61.92	2
VSFELFADK					528.30	33.34	52.91	2
DFTPAELR					474.77	23.81	28.99	2
YYVEELDPSLLANFPLLK	708.73	65.58	25.57	3				
LKLPAVVTADLR	432.62	33.45	38.59	3				
AAVEEGIVLGGGC(+57.02)ALLR	562.32	41.35	42.19	3	842.99	35.59	48.65	2
EDVIWELLNHAQEHFGK					689.05	42.51	31.42	3
IFTEALEK	475.78	19.85	38.54	2				
LYFEELS(+27.99)LER	663.84	42.27	32.86	2				
SIVEEIEDLVAR	686.89	61.32	35.14	2	686.90	47.33	56.01	2
FGM(+15.99)AAALAGTM(+15.99)K	600.79	14.50	54.08	2				
FAHYIITSQVVNSADTAK	655.70	27.38	36.96	3				
LGENLQLK	457.77	17.76	37.62	2	457.79	20.38	39.48	2
LLLEYTDSNYEEK					808.94	27.99	38.96	2
AIFTFPNTPVK	617.85	37.23	30.92	2				
ILLNDASDLPK					599.86	27.19	35.88	2
IYAIAK(+162.08)ALEDNMSLDEIMK					777.43	42.92	31.72	3
TTLLHMLK					478.79	22.37	26.76	2
LDQGVAPLAGTNK(+21.98)					653.36	19.02	26.66	2
GYLGPEQLPDCLKG	745.38	34.81	41.9	2				
GPLLVQD(+37.96)VVFTDEMAHFDR	557.53	51.64	30.64	4	743.04	42.30	26.99	3
FPVFMGR					427.23	28.17	25.11	2
GSSTR					507.26	51.93	24.97	1
ISPYVAHSFNK	421.57	14.62	31.41	3	631.85	17.24	45.58	2
PGATMLLAK					451.27	25.20	43.5	2
EAYPGDVFYLH					655.83	34.12	33.12	2
YGVSGYPTLK	542.80	21.63	44.27	2	542.82	23.31	55.49	2
NPVNYFAEVEQLAFDPSNM(+15.99)PPGIEPSPDK	805.41	63.27	28.19	4				
KPIEEVLK					478.33	14.93	31.11	2
FLQEIYNSNSQK	735.88	22.37	47.67	2				
GNFPVEAVK					480.79	20.05	38.34	2

KQSVEDILK					530.33	17.69	42.83	2
VANVSLLALYK					595.87	33.61	50.93	2
ISLTHSLTR	514.31	13.84	37.02	2	514.33	17.01	39.53	2
FVVAFGEDMR					585.81	32.00	55.56	2
KETTVQGLDGLSER					511.64	19.49	32.96	3
SLATAGDGLIELR	658.38	35.52	34.26	2	658.39	32.27	46.72	2
GVMLAVH(sub D)AVIAELK					725.94	47.53	35.85	2
GPLLVQDVVFTDEMAHFDR	730.37	51.49	57.57	3	730.40	42.06	59.37	3
FDGVQDPR					467.25	15.29	37.01	2
TLMNLGGLAVAR					608.36	32.65	45.59	2
VFELMTALHTK					645.37	29.98	41.69	2
MNVLADALK					487.79	28.44	31.11	2
EYVLPSFEVQLEPEEK	646.02	48.91	45.27	3				
SDYENFMER					595.78	23.51	46.44	2
DLPLAQGIK	477.79	26.48	29.19	2	477.80	26.39	32.85	2
EGNDLYHEM(+15.99)IESGVINLK	693.02	33.72	48.25	3				
SDELPNQLSMK					631.35	23.19	31.3	2
GLNVVLISR	485.81	29.74	44.38	2	485.82	27.92	38.63	2
EDAQVAAEILEIAD(+21.98)TTSGDK					1049.56	42.66	35.16	2
LC(+57.02)SGVLGTVVHGK	442.92	19.71	35.45	3	442.93	22.21	35.61	3
TIYTPGSTVLYR	685.88	37.16	23.91	2				
IFSLEHDIFR	426.25	35.64	41.03	3	638.87	32.78	54.58	2
IAALQSAGVVVSMSPAQLGTTMYK					808.44	39.88	64.47	3
DIFQEIYD(+21.98)K					596.82	34.65	26.87	2
VVYGEPIAAGLGTDGTHHWDR					563.56	27.34	59.49	4
FESFGDLSTADAVMNNPK					971.98	34.66	64.23	2
VVEGLPINDFSR	673.37	34.54	30.82	2	673.39	31.51	51.14	2
AAFPGWSSR	489.76	22.80	32.45	2	489.77	24.30	42.41	2
KTFSHELSDFGLESTTGEIPVVAVR					680.64	36.27	40.48	4
VTAIDFR	411.23	18.48	34.59	2	411.25	21.07	36.62	2
INPSSMFDVQVK					682.88	32.10	59.96	2
S(+42.01)APLPAIVPAAR					602.88	35.74	28.65	2
LVILM(+15.99)DPFEDDLK					782.42	41.16	31.33	2
VPGATMLLAK					500.80	25.13	54.34	2
HLQLAIR	425.77	13.64	26.36	2	425.79	17.05	36.55	2
KPEDWDEEMDGEWEPPVIQNPEYK					987.50	36.71	30.49	3

LHAVNAEESSVLR					712.93	18.27	47.94	2
VAD(+21.98)ISLAAWGR					590.83	32.01	35.33	2
IM(+15.99)DPNIVGSEHYDVAR	611.31	22.18	38.16	3	611.34	22.93	28.32	3
EAAALPVSYGTAIFALEHR	672.72	47.41	37.89	3	672.73	39.47	47.08	3
E(-18.01)ISLDDFK					474.77	28.39	26.95	2
I(+57.02)GCTPVLVLSGLDTVR	850.50	56.53	28.86	2	850.50	39.50	49.82	2
ISATSIFFESMPYK					810.93	40.25	80.04	2
VGIVAVDK	400.76	14.98	27.77	2	400.76	17.89	31.68	2
INQTYQLQYGR	692.37	18.71	50.89	2	692.39	21.12	65.42	2
TGAIVD(+21.98)VPVGEELLGR	549.65	45.80	25.1	3	823.97	38.10	45.31	2
NIFDFN(+.98)ALK	541.79	43.13	23.21	2				
Q(-17.03)DAQDLYEAGEK					675.32	24.38	33.25	2
DTTFNDIPVR					589.33	25.79	46.3	2
DLGLAQDSATSTK					653.87	18.54	47.79	2
VISHAISEHVEDAGVHSGDATLM(+15.99)LPTQTISQGAIEK	752.41	34.16	25.76	5				
TANDAGYFD(+21.98)NEMAPVEVK					997.00	30.64	34.3	2
EESFGPIMIISR					689.89	37.52	71.97	2
AGVNTVTTLVENK	673.38	24.56	38.24	2	673.39	25.26	49.46	2
GHVADFLVADFR	449.59	35.63	37.87	3	673.88	32.71	61.02	2
DSNYHLLM(+15.99)SVQESLER	646.33	39.36	38.46	3	646.34	34.77	32.58	3
EQIVVDLSHPGVSK	503.29	23.92	43.69	3	754.44	24.57	67.61	2
AELSLVFVDKPEK	492.28	29.96	40.39	3	737.94	29.36	50.21	2
YVDLGGSYVGPTQNHILR	663.70	30.09	59.37	3	663.71	28.37	52	3
HLFHPDLLQDK	454.93	19.61	50.95	3	454.93	22.56	61.89	3
LLRPLGAELPLQTLR					564.03	34.40	25.5	3
MSLIEEEGGK					546.78	19.60	43.35	2
TMIGK					549.30	53.01	24.07	1
VLSSMTDAVLAR	631.86	29.03	55.92	2	631.87	27.82	57.04	2
SVGEVM(+15.99)AIGR	517.78	13.70	36.32	2	517.81	16.47	39.08	2
A(+42.05)DAASQVLLGSGLTILSQPLMYVK					839.80	50.72	49.63	3
ELFPIAAQVDK	615.85	34.62	49.35	2	615.87	31.73	43.07	2
LGFYGLDESDLDK					736.40	34.71	30.63	2
Q(-17.03)VITLLNELK	577.36	61.33	30.66	2	577.37	47.31	33.08	2
QVVNIPSFIVR					636.40	35.79	42.13	2
ADADLTLLWAEWQGR					872.97	45.50	46.4	2
IILPEGAK	420.77	16.20	25.16	2	420.78	19.10	24.44	2

TIEYLE(+21.98)EVAITFAK					824.96	45.78	33.23	2
EFSIYMTK					509.77	26.72	39.29	2
YEELQTLAGK					576.34	21.60	50.93	2
Q(-17.03)IPLNEQFLR	620.86	49.34	30.45	2				
ASLE(+21.98)AAIADAEQR					683.85	28.62	25.07	2
LIDDMVAQVLK					622.88	38.14	53.83	2
SDDIGGLWR					509.79	29.13	45.73	2
DRPIEPLDLAVF					692.91	44.75	27.39	2
LIIAGTSAYAR	568.34	22.37	38.74	2	568.34	22.79	46.86	2
IAHAEAQVGFPEVTLGILPGAR	749.43	46.83	45.04	3	749.45	39.42	30.33	3
EEC(+57.02)ALEIIK					552.81	25.93	27.95	2
SFGTTISPWVVPMDALMPF					1048.54	50.95	28.38	2
GTTLITNLSSVLKDETVWEKPFR					659.38	43.07	25.87	4
HELLPNLND(+21.98)LVAVGR					841.49	37.94	26.23	2
NFFEPTLLSNVTR	769.41	46.08	41.67	2	769.44	38.88	48.32	2
DLEKPFLLPVESVYSIPGR	720.41	53.72	64.64	3				
VNTPTTTVYR					576.34	16.06	35.32	2
ADIANLADEFK					603.85	32.39	32.58	2
VMQEEIFGPILPIVPVK	637.05	59.35	44.67	3				
AVLAESYER					519.29	16.85	35.95	2
APSPPIVDTAQGR	654.87	16.53	41.54	2	654.87	19.21	44.2	2
AALAGGTTMIMDFAIPHK					615.67	37.80	55.52	3
Q(-17.03)FVFDLHSGK					580.82	34.59	26.97	2
ANN(+.98)TFYGLSAGIFTNDIDK					1031.55	44.03	26.35	2
GNPTVEVD(+21.98)LFTAK					706.88	32.11	35.27	2
EAQGEILYSANFLEWFSEEAR					830.45	49.06	34.15	3
GIVGVENVAELK	614.36	30.38	60.73	2	614.37	28.97	59.56	2
DLYANTVLSGGTTM(+15.99)YPGIADR	744.38	43.54	42.44	3				
VHITLSTHEC(+57.02)AGLSER					604.00	20.17	38.11	3
IPEHLTDTYFK	455.25	23.65	36.42	3	455.26	24.76	34.74	3
LLLPEGAK					420.78	19.10	24.44	2
FPSLLTHNENMVAK					534.31	27.09	24.78	3
KLTEIINTQHENVK	556.32	12.71	34	3	556.34	16.55	51.12	3
C(+39.99)MALSTAILVGEAK	723.87	58.82	29.36	2	723.90	45.81	42.66	2
AVAEIEEMC(+57.02)NILK					760.41	36.74	25.95	2
Q(-17.03)GIQFYTQLK	604.83	44.57	37.14	2	604.85	36.49	37.05	2

FRPQFLGVAEQLHNEGFK	530.05	58.44	29.48	4				
TTVLAMDQVPR					615.86	25.73	56.12	2
LVLVGDGGTGK					508.32	19.60	26.53	2
KLDEAVAEAHLGK					460.96	16.67	52.95	3
ALEDN(+.98)MSLDEIMK					755.41	36.12	39.83	2
Q(-17.03)AASSLQQASLK	607.83	22.00	43.2	2				
ILENIQVFD(+21.98)FTFSPEEMK					1105.08	47.15	38.03	2
QT(-18.01)ALVELLK	498.82	32.36	31.7	2				
NLNSD(+21.98)MDSILASLK					771.91	42.93	30.21	2
VLLSALER					450.80	25.82	32.8	2
GHIIVDEFQNTNVK	538.64	21.80	46.19	3				
DMFQETMEAFR	702.82	49.67	31.08	2				
DIAFEVEDC(+57.02)DYIVQK					922.48	35.49	39.71	2
EQSGLEAHLLGLDTK	537.64	31.49	58.47	3	537.64	29.79	46.62	3
QAGLSYIR	454.27	15.63	24.7	2				
VEAAVGEDLFR					603.35	28.51	49.98	2
EAVLIDPVLETAQR					777.48	34.02	46.3	2
FFFDVGSNK					530.79	31.86	33.69	2
IVGDLAQFMVQN(+.98)GLTR	588.32	49.85	38.19	3	882.00	40.33	54.87	2
YLDLILNDFVR					690.91	44.72	44.06	2
IGDEGQGFLIAMK					689.89	33.46	75.81	2
NFE(+21.98)EVAFDEK					625.29	25.83	27.25	2
FTQAGSEVSALLGR	718.40	35.19	59.14	2	718.41	31.80	78.1	2
GYFIQPTVFGDVQDGMTIAK					1094.10	42.40	58.18	2
LSQNNFALGYK	627.84	23.06	48.55	2				
SLLTYGR					405.24	20.03	31.92	2
YEISSVPTFLFFK					789.44	45.49	44.05	2
LPEEWSQWLSHSGWPGYVR					772.06	42.50	68.57	3
ELTPSLLDVK	557.84	33.32	38.91	2	557.84	30.85	42.75	2
KTAALVALR					471.81	15.41	40.04	2
EAWSIWADIPAPK					742.41	42.08	63.41	2
ALLEMQQTK					531.31	19.65	33.58	2
AVFVDLEPTVIDEVR	851.48	49.41	43.96	2	851.50	40.09	35.92	2
DEGWLAEHMLILGITNPAGK					722.41	45.40	33.81	3
SETSGSFE(+21.98)DALLAIVK					844.96	45.16	29.65	2
EQIDIIEGIK					579.36	29.85	38.44	2

DGGQQFSGEFQALNPMK	927.44	44.03	50.88	2	927.47	36.43	58.28	2
IGQGYLIK	446.28	17.61	26.23	2	446.29	20.85	34.74	2
VIGMHYFSPVDK					464.93	26.14	50.62	3
AFQDLLDQVGGLGR	744.91	50.69	26.89	2				
NLLSVAYK	454.27	23.20	27.12	2				
VLPGVDALSSV	528.81	45.43	48.54	2				
DHHDVSGTDSPFR					490.57	14.21	57.71	3
FYLEVSQILK	620.37	47.22	42.82	2	620.37	38.60	27.6	2
SLVFPEAENR					581.34	24.15	34.01	2
MPC(+57.02)TEDYLSLILNR	575.63	55.20	28.02	3	862.96	43.98	47.32	2
NLTNPNTVIILIGNK					812.50	35.88	65.57	2
ESTLHLVLR	534.33	19.86	48.45	2	534.34	22.86	52.08	2
FC(+57.02)FSTFGDR	568.77	30.78	34.62	2	568.77	29.48	36.24	2
FFLVGPDAR					511.30	31.05	32.39	2
ALDAR					545.35	54.74	30.96	1
DTQSIIFLGK	561.32	36.17	46.71	2				
LELAQYR	446.75	16.97	36.45	2	446.77	19.90	37.82	2
SLEDDIR					424.22	17.28	32.56	2
VLVVDPELR	520.33	27.09	42.73	2	520.33	27.31	34.82	2
SVRPGVAIADFVIFPPR					614.36	39.59	52.78	3
LDVLSNDLVVNVLK	770.97	53.36	49.97	2	770.98	42.80	53.65	2
LLLE(+21.98)YTDTNYEER					840.95	29.27	29.83	2
GPLQSVQVFGR	594.34	31.23	29.79	2				
N(+.98)GVAIVDIVD(+21.98)PLISLSGEYSIIGR					841.83	50.49	50.47	3
QLDMILDEQR					630.86	27.76	31.55	2
SLGSEEQIAK					531.29	14.55	42.86	2
EFVEEFIWPAIQSSALYEDR					1215.15	48.36	56.14	2
NVFPIWTLGR					601.84	39.78	37.49	2
RHPEYAVSVLLR	480.62	30.61	56.16	3	480.62	22.91	58.22	3
LNPNDEDIHTANER					546.60	13.92	30.78	3
VHVIFNYK	510.30	17.02	38.23	2	510.30	20.02	39.66	2
EQYLQSIEDR					640.83	23.03	41.54	2
TNAEIQAINK(+21.98)					562.30	15.02	23.28	2
RPAILTYHDVGLNYK	587.34	25.93	68.95	3	587.34	24.58	65.68	3
LYSESLAR	469.76	13.59	33.29	2				
LIEWLPLHLPR					462.95	39.67	45.56	3

NFDEILR					453.77	25.56	33.64	2
M(+15.99)ALDIEIATYR	656.35	34.02	27.86	2				
FADEFNR					449.74	17.70	33.95	2
SNLVSGLVMSIEEK					753.44	40.16	60.04	2
VDLLEN(+.98)QVMDVR					716.41	31.35	33.67	2
LKPDPNTLC(+57.02)DEFK	526.28	25.42	41.39	3	526.31	24.94	28.9	3
AVVVIQDIFGWQLPNTR					978.55	46.73	63.45	2
E(+14.02)WPSDIDLR					572.81	30.25	28.41	2
LFSIENWGGATFDVAMR					957.52	45.05	54.75	2
VIHDHFGIVEGLMTTVH	635.68	38.28	58.13	3	635.70	33.94	49.11	3
M(+42.01)EGGAELLFYVN(+.98)GR					799.92	47.68	54.42	2
LVQAIIENSFLN(+.98)GEVIR	639.37	51.07	30.38	3	958.57	41.30	46.04	2
INVLPLGSGAIAGNPLGVDR	645.06	50.12	45.79	3	967.07	39.62	78.57	2
NEALAALLR	485.80	30.97	25.92	2	485.81	30.38	42.67	2
FYALKPDR	505.29	13.69	27.85	2	505.30	16.59	30.65	2
ILWESASLLR					594.36	35.18	54.94	2
FAMEPDDFDADALR					806.91	35.00	50.14	2
LPVVLGHEGAGIVESV(sub I)GEGVTTVR	792.46	43.30	24.84	3	792.47	36.59	31.89	3
M(+15.99)LLLQDLSSYK	663.87	37.46	25.44	2				
DGFIDKEDLHDMLASLGK					668.70	39.77	91.32	3
VWDEGYPWDMLFITR					964.51	48.93	56.16	2
DAMFSNLIGQLDYR					821.94	43.93	63.07	2
GAGAFGYFE(+21.98)VTHDITR					881.95	32.43	38.6	2
GNDVLVIEC(+57.02)NLR	701.38	32.39	37.38	2	701.39	30.25	36.83	2
FW(+31.99)LVIK					419.26	35.29	27.15	2
VQQEIDEVIGQVR	504.96	32.54	42.92	3	756.96	29.45	48.69	2
IPVQLQR	427.27	15.77	24.29	2	427.29	19.01	25.4	2
EYTINIHK					509.29	16.57	38.31	2
EIGNIISDAM(+15.99)K	603.81	23.51	34.35	2				
VSLELGGK	401.75	16.45	38.61	2	401.75	19.19	33.39	2
NADEAIQFINER					710.39	28.23	53.35	2
LC(+57.02)AGLPMPSSYVPGVTSR					946.51	35.34	27.52	2
SPNPALWWVNDQGDEVK					978.01	36.87	69.19	2
SSVPFLGR					431.76	25.69	24.45	2
IGIPHGGFPEPLR	463.94	30.42	25.8	3	463.95	29.30	30.19	3
Q(-17.03)VSIILLGATGDLAR	755.45	65.70	26.36	2				

M(+42.01)HLSAVYHR					578.32	21.54	37.64	2
GAGAFGYFEVTHD(+14.02)ITR(+14.02)	590.31	37.72	26.96	3				
MNLGVGAYR	490.76	19.96	43.56	2	490.78	22.45	41.85	2
AFEEEQDLR					568.79	17.69	45.21	2
SINPDEAVAYGAAVQAAILSGDK	754.08	58.10	60.05	3	754.10	45.09	59.37	3
VIASAFAQIPQK(+21.98)					647.87	26.25	36.07	2
VM(+15.99)LPAN(+.98)SFQGK	604.81	20.84	26.09	2				
GLLPQLLGVAPEK	667.92	46.17	50.42	2	667.93	37.72	54.66	2
LQIWDTAGQER					658.86	26.47	55.06	2
GLGTDE(+37.96)DAIINVLAYR	586.64	52.82	34.45	3				
GTDHLVNVFLGIPF	764.93	66.00	26.1	2	764.94	48.08	28.19	2
NVISDILFHK	593.34	40.37	30.15	2	593.36	36.02	36.77	2
VVLPK					555.30	56.66	24.38	1
VAPE(+21.98)EHPVLLTEAPLNPK					659.38	28.39	30.38	3
ELFPVDTMR	554.29	32.24	44.15	2	554.30	30.29	39.77	2
HSGNITFDEIVNIAR					562.66	34.79	46.03	3
YVNTIGHR	480.27	12.74	29.43	2				
NVPEELSGAGLDYLAY					855.94	43.50	38.83	2
VDQTEDILEK					595.32	19.48	40.63	2
IWHHTFYNELR	505.94	48.55	29.96	3	505.94	20.44	73.31	3
VFIEDISK	475.78	23.65	37.88	2	475.78	24.48	36.28	2
YSTDVSVD(+21.98)EVK					632.31	19.83	35.95	2
GLQNQIANSGLTVELDAPKPQDLSK	879.50	39.92	30.86	3				
LLDTAFDLDAFK	684.88	51.03	30.51	2				
LISLTDENALAGNEELTVK	677.38	42.34	44.94	3	1015.57	35.77	57.38	2
KDLYANTVLSGGTTMYPGIADR	781.75	37.39	58.1	3	781.77	32.53	55.56	3
TVSDLAVVLFETATLR	579.02	66.43	48.99	3				
TGEAIVDAALSALR	693.90	52.39	54.08	2	693.92	42.30	64.13	2
ALLPSMIR					450.78	28.34	32.76	2
LFATEATSDWLNAN					776.90	40.01	52.1	2
MDQLSLEDMLAILRPSLTNMDVPTEVMPTIIK					1205.68	49.49	54.73	3
MGALDVC(+57.02)PFIPVR					737.91	38.79	39.21	2
DQLLPNLR					484.80	27.90	24.91	2
YLPAFEN(+.98)VLK	597.84	41.37	29.59	2	597.85	35.82	26.27	2
QAASSLQQASLK	616.34	12.92	43.88	2				
ALATQLPVLPR	589.88	34.13	38.6	2	589.88	30.43	55.43	2

NS(+27.99)NVGLIQLNRPK	494.29	20.10	26.79	3				
FAIEVGFR	469.77	34.15	42.5	2	469.78	31.77	45.51	2
NLGADAVGMSTVPEVIVAR					950.04	36.95	62.34	2
M(+15.99)PLSSIHLR	535.32	16.01	25.57	2				
GAGAFGYFEVTHDITR	580.96	35.94	61.93	3	870.96	32.35	85.21	2
FNHEMFGLKPK					449.91	18.98	57.86	3
LGAGYPM(+15.99)GPFELLDYVGLDTTK	791.75	64.47	48.32	3				
AVLQELLEADLSDDAFPFSTHK	816.10	61.26	23.58	3				
LPFLLEDPVLSAIAK					813.52	47.54	42.64	2
KGDEYIIN(+.98)GQK					633.34	15.09	35.77	2
KLEDEGE(+21.98)QFVK					672.34	18.22	24.92	2
ASIHEAWTDGK					607.84	15.30	65.79	2
VVM(+15.99)IEPGYFK	599.83	27.82	31.72	2	599.84	27.81	35.93	2
ASLNM(+15.99)FNK	470.74	12.87	27.45	2				
GGPLAAPYR	451.26	14.41	38.9	2	451.27	17.23	38.75	2
LLADPSGTFGK	553.32	23.75	40.9	2	553.32	24.02	39.62	2
DYFLFR	430.73	39.22	35	2				
LVGQGATAVLLDLPNSDGETQAK	766.43	43.29	53.7	3	1149.15	36.37	57.63	2
TAALVALR	407.77	17.42	41.17	2	407.77	20.41	36.1	2
LIAINVNDPEASK	692.39	26.93	49.76	2	692.41	26.52	43.33	2
AAVTAFW(+3.99)GK	477.77	23.82	30.43	2	477.77	24.56	23.76	2
TALLGLTK	408.77	21.78	29.65	2	408.78	23.43	36.66	2
IEIESFYEGEDFSETLTR					1083.08	40.17	51.85	2
LSTETGFALLGGHPC(+57.02)	780.40	39.62	30.78	2	780.42	34.47	53.45	2
GVYSTQVGFAGGYTPNPTYK	703.02	40.19	35.91	3				
IMQSSSEVGYH(sub D)AMLGDFVNMVEK					858.10	47.88	36.88	3
VPQIAFVITGGK					615.37	33.96	47.91	2
TVLGSPEVLLGILPGAGATQR	683.75	58.53	62.67	3	683.75	44.93	63.51	3
EVGVYEALK					504.31	22.35	29.36	2
TAVETAVLLLR					593.39	35.22	56.51	2
PGPGAWLR					427.25	22.55	28.7	2
SILENLR					422.77	23.49	23.12	2
FLEDGPELEK					588.81	23.83	25.21	2
GLLPEELTPLILATQK(+21.98)					879.53	45.31	24.93	2
AYIEEDLELVGK					689.90	32.05	48.62	2
YDVDTLDMVFLDHWK					633.00	44.45	58.49	3

IAIYELLFK	555.34	53.91	33.41	2	555.34	43.44	42.15	2
GLAM(+15.99)VPLK	422.76	17.44	24.78	2				
HLSVNDLPVGR	402.91	19.95	30.07	3	603.86	22.09	64.94	2
LVIGQN(+.98)GILSTPAVSC(+57.02)IIR	671.39	54.62	33.43	3	1006.59	42.13	38.3	2
IIALDGDTK					473.30	18.94	29.79	2
V(+42.01)VAGVANALAHR	610.36	41.22	30.19	2				
DLSSVQTLLTK	602.85	38.92	34.36	2				
DTPGFIVNR	509.78	22.27	51.93	2	509.79	23.26	48.28	2
FHHTFSTEIAK	439.91	11.85	48.3	3	439.92	14.88	46.94	3
HHAAYVNNLNVAEEK	570.30	12.08	37.07	3	570.31	15.62	60.85	3
ELISNASDALDK					638.36	22.87	40.82	2
DPLVIELGQK	556.33	32.88	43.35	2	556.36	30.43	35.2	2
LAASEAATAITHQAM(+15.99)QILGGM(+15.99)GYVK					855.46	40.34	25.95	3
FQLQSDQLR	567.81	20.69	33.32	2				
ASLEAAIADAEQR					672.86	28.50	54.46	2
GPIAVNIQDK	527.81	17.53	49.61	2				
NFAATIPR	445.26	18.03	25.28	2				
DALLFPSFIHSQK	501.61	41.52	46.64	3	751.92	35.37	50.22	2
VDEVGGE(+21.98)ALGR					562.28	16.96	32.38	2
LTPPLEDSR					514.30	18.26	28.65	2
IEFEGQSVDFVDPNK					862.47	33.26	49.57	2
MIKPFFHSLSEK					488.61	22.92	43.41	3
SEDLLDYGPFR					656.36	36.15	47.11	2
KFSLDQLITH	401.24	33.02	28.19	3				
VQTLTLQDGLIPLEIR	603.70	54.10	30.77	3	905.07	43.45	50.8	2
IFLMDLNEQNPR	745.40	38.17	63.36	2	745.41	33.87	65.22	2
LATLGGSQVLGLDR					700.44	30.87	59.19	2
MILPVGAENFR					623.86	32.33	33.29	2
FADIVPLGLPHMTSR					551.98	35.69	45.31	3
EWHHFLVVN					590.83	27.07	34.4	2
GLMPDGTSR					467.26	16.20	31.78	2
DFADIPNLR	530.79	35.56	30.96	2				
VSPETVD(+21.98)SVVVGNVMQSSSDAIYLAR					915.83	44.20	23.38	3
LNNLVLFDK	538.33	31.92	36.07	2				
SLHQAIEGDTSGHFLK	580.64	17.09	77.96	3	580.65	20.70	78.54	3
LVGPEAPLVLER	646.89	33.68	37.59	2				

YIDLVPTNLPHAVTR	570.34	49.89	29.28	3	570.34	32.25	47.12	3
KLDVLSNDLVVNVLK	557.02	57.99	44.2	3	835.03	37.90	67.09	2
LNLPVLLEDSVLC(+57.02)AIAK					934.56	49.21	39.51	2
SLINDYVK					476.28	24.60	25.88	2
TFDIQLGDIVDEIQR	587.98	57.79	61.36	3	881.49	44.91	59.23	2
AQDEGLLSDVVPFK	759.41	47.04	65.88	2	759.42	39.09	69.42	2
GILAADESVGTMGNR					745.92	24.78	54.83	2
ILIPALM(+15.99)VTAEK	657.90	39.28	24.1	2				
YALTHPDTVEGLVLINIDPNAK	798.45	49.49	46.75	3				
HNQLPLVIEFTE(+21.98)QTAPK					663.05	35.95	48.87	3
VEVTEFEDIK					604.82	27.56	35.02	2
FAAEHTIF	468.25	25.11	38.57	2	468.25	26.63	35.29	2
LLGPLGMK					414.76	25.88	28.64	2
IAEIFMR	440.25	25.28	37.76	2	440.26	26.38	38.4	2
VGPAEVEN(+.98)ALAEHPAVAESAVVSSPDPVR					966.89	30.65	26.7	3
AAEMLLFGK					490.29	30.69	61.32	2
KPLLESGTLGTK					622.39	17.70	41.51	2
TILDELVM(+15.99)R	553.31	39.66	23.97	2				
GGWTVIQNR					515.80	21.90	40.68	2
EVSGGGVD(+21.98)FSFEVIGR	559.61	45.54	24.86	3	838.94	37.57	26.65	2
LEGLTD(+37.96)EINFYR	503.24	41.42	25.69	3				
Q(-17.03)LAPIWDK					477.28	37.22	28.08	2
LSSPATL					688.42	22.19	34.88	1
LPVVLGHEGAGIVESV(sub I)GEGVTTVRPGDK	693.91	40.19	41.54	4	693.92	34.52	35.34	4
LMLVAMAN(+.98)DLK					610.35	34.00	37.45	2
YWANFAR					464.24	23.60	27.05	2
VVEEAPSIFLDSETR					846.49	32.70	49.12	2
LFVEES(+27.99)IYDEFVR	837.42	55.15	31.04	2				
VFADYEAYVK	602.81	30.22	48.14	2	602.83	28.57	50.4	2
SFAVGTFK	428.74	20.32	33.2	2				
S(+109.05)YVLSGSAMNVVFSEDEMK					1101.56	41.36	32.56	2
AATQFWR					440.25	20.89	24.49	2
M(+15.99)VVESAYEVIK	642.34	24.20	36.35	2				
IAVGSDADIVIWDPK	799.93	43.58	51.41	2	799.96	36.93	72.92	2
SFENSLGINVPR	666.87	33.29	45.55	2				
LVPMPTPGLTLGK					662.40	33.17	32.68	2

LDLDFPNLPYLMDGK					875.98	46.99	54.33	2
LQDPFSLYR	569.82	36.28	37.8	2	569.83	32.77	44	2
DIEAQVEHEGLR					698.36	22.63	63.85	2
VEETTMQGLK					568.32	16.38	45.07	2
GLGTDEDTLNEILASR	568.64	45.29	37.23	3				
KPFAEYIYK	579.83	19.02	51.01	2	579.84	21.70	58.9	2
LDLDFPNLPY	603.82	61.71	22.57	2				
MVGIPAAFD(+21.98)MMLTGR					816.40	46.19	23.31	2
SEFEAQNIWYEHR					570.31	27.35	39.19	3
NAGVEGSLIVEK					608.35	21.80	52.77	2
TFASPTQVFFNSANVR	595.99	42.68	32.66	3	893.47	36.14	61.3	2
PYTPVSSDDDKGFVDLVIK	699.05	41.31	27.88	3	699.06	35.31	30	3
ALLTPVAIAAGR	576.87	33.26	39.71	2	576.87	30.55	50.36	2
YPIE(+14.02)HGIVTNWDDM(+15.99)EK					659.67	27.58	40.36	3
KLEYGNVDEAFK					706.91	22.84	61.93	2
TGASQVLTSLSPDLPLR	585.67	46.02	25.85	3	878.03	38.35	67.53	2
SDIGEVILVGGM(+15.99)TR	731.90	34.58	36.52	2				
GAAYAHAEESIR					637.85	13.77	46.21	2
RPFTQNLGLEELGIELDTR	734.41	47.45	47.41	3				
SEIDLLDIR					537.33	34.28	36.01	2
VVTVLTWPGTNPK					706.41	32.23	50.89	2
QT(-18.01)PALVALR	475.80	21.36	30.89	2				
SGPPVIHSGIK	546.33	12.04	27.82	2				
LITLEQGK	451.28	14.97	30.57	2				
Q(-17.03)SVESDIHGLR					612.35	23.05	37.47	2
RPIHLSFDVDGLDPSFTPATGTPVQGGLTYR	829.45	47.66	52.31	4				
DAQLFIQK	481.78	21.00	36.66	2	481.79	22.48	36.18	2
LVVAGHLLK	475.32	17.27	42.63	2	475.32	20.11	46.98	2
EVDILISTALIPGK	734.95	50.10	42.36	2				
DAM(+15.99)FSNLIGQLDYR	829.91	48.65	44.44	2				
LAAIAEPGVER					563.36	20.53	32.06	2
ASWSSLSIDEK					611.83	26.70	50.11	2
TAHLVHELR	538.32	12.30	39.03	2	538.33	15.42	44.82	2
LLEELEEGQK					594.33	22.89	34.72	2
ITWSNPPAQGAR					649.37	19.87	54.33	2
M(+15.99)VEGFFDR	508.74	22.06	28.23	2	508.75	24.19	31	2

AIKPTLSLIDPLHTLHMPER					571.34	35.04	65.66	4
PGEAGLLLTQVLR	683.92	46.80	38.71	2	683.93	38.42	50.11	2
IIVVDIN(+.98)SEK					565.86	25.89	26.98	2
LGISSLIR	429.78	30.57	38.94	2	429.79	29.03	37.98	2
QVVE(+21.98)AVPVLLSIPGLAAK	609.39	58.97	35.26	3				
SAVEQAC(+57.02)IGYVYGDSTSGQR	716.68	27.33	31.94	3				
EVAFWN(+.98)ELLSR					682.87	38.54	40.98	2
YLGPAVLM(+15.99)QAYR	699.38	32.87	41.83	2	699.38	29.92	50.21	2
VADISLAAW(+31.99)GR	595.82	24.11	32.19	2				
IVGNLLYYR					555.82	28.89	45.5	2
N(+.98)SYLEVLLK	540.32	50.58	25.57	2				
TFIIGELHPDDR	471.60	28.55	45.54	3	706.89	28.23	66	2
DAGTIAGLNVM(+15.99)R	617.33	24.10	36.71	2				
LLEDPVLSAIAK	634.89	40.92	42.76	2	634.91	35.39	34.75	2
GPN(+.98)GLLVYQGK	573.82	23.62	46.42	2	573.83	24.27	46.18	2
ISVNNVLPVFDNLM(+15.99)QQK	659.04	50.14	29.65	3				
GILFVGSGVSGGEDGAR	789.41	32.16	23.82	2				
LQEEMLQR					523.80	17.52	32.61	2
DC(+57.02)PAAFSDIQDVHILSGFVR	749.73	53.90	38.32	3				
THLPLALLPK	551.86	29.47	45.73	2	551.85	28.40	45.4	2
YSLKPNDQILAEEK	824.45	21.87	33.06	2	550.00	23.05	38.49	3
IAPAIAAGNTVIAK	655.41	24.05	40.59	2	655.42	24.59	49.64	2
QGLSSSIFTK	534.30	22.16	40.11	2	534.32	24.27	41.75	2
LALGDDSPALQEK					678.87	23.64	65.89	2
PLVTMDDAVDK					602.31	23.46	42.95	2
APNSPDMLEIEFK	745.88	38.53	45.71	2	745.92	33.67	56.69	2
AVVGVVAGGGR	471.30	13.23	27.55	2				
SVVSAQC(+57.02)PFGGFK	692.36	29.39	32.58	2	692.37	28.49	31.49	2
YLTPLPQPNR	599.85	22.48	36.37	2				
APM(+15.99)FSW(+15.99)PR	512.25	22.07	22.86	2				
TPILLHDHDER					449.25	13.88	51.31	3
VPADTEVVC(+57.02)APPTAYIDFAR					731.40	38.19	46.26	3
RFDVSSYPTLK	438.24	22.76	36.21	3	656.88	24.14	50.85	2
FENAFLSHVISQHQALLGK					713.73	34.85	75.14	3
WLLSHTEQRPQVAVIC(+57.02)GSGLGGLVNK					705.64	34.05	37.17	4
LWQQLR					422.25	19.67	23.69	2

AIEILGGELGSK	593.84	32.68	38.86	2	593.86	30.50	49.73	2
YGVEAFSDILR	635.35	43.72	56.53	2	635.36	37.20	65.76	2
TPSEGAGLQSTLVFEEIGR	664.36	45.18	30.38	3	996.05	38.02	76.79	2
VGWEQLLTTIAR					693.91	44.24	63.12	2
YFDQVDISN(+.98)GLDWSMDHK	724.35	45.24	42.38	3	724.35	37.01	47.68	3
EAHFLLEVLR	409.59	36.23	38.73	3	613.88	33.62	48.66	2
DSLLQDGEFTM(+15.99)DLR					828.43	34.95	39.79	2
VVVPGVVGAR					476.82	22.10	28.98	2
IVYLYTK					450.27	21.02	26.17	2
AQIFANSVDNAR	653.34	17.49	56.6	2				
DIVEHLSEK					535.30	16.64	42.2	2
GM(+15.99)SLNLEPDNVGVVVFGNDK	707.37	46.69	34.17	3				
GTGEMTQLLNSLC(+57.02)TAVK					911.98	41.34	40.92	2
FKPEHFLNEN(+.98)GK	487.59	14.29	42.77	3	487.60	18.28	41.04	3
KTQGQPFDPTFVVGFAPY					1000.05	43.42	28.49	2
DIVSDTSGDFR					606.30	24.41	53.96	2
FSMVIEDGIVK	619.34	36.98	32.14	2	619.35	33.19	58.33	2
REPWLLPSQYHEIIR					646.38	31.18	40.03	3
NLELAAVGGSHVHVK					510.97	20.34	41.03	3
DFTPVC(+57.02)TTELGR					698.38	27.32	31.11	2
VAGLLVLNYSDDYHHWLATK	579.58	60.14	40.29	4	772.43	37.57	49.14	3
ALADYIR	411.24	21.69	27.64	2				
IDQLEGDHQLIQEALIFDNK	780.43	47.90	45.41	3	780.43	39.40	51.82	3
ALDFIASK	432.75	22.06	25.61	2				
VTSDIINAAEK					580.85	19.52	40.16	2
IEYGGLGHEVQVEHIK	452.76	21.24	62.85	4	603.34	23.17	39.81	3
P(+42.01)FVELDTSLPAGR	722.39	57.16	38.25	2	722.40	44.63	38.69	2
ASVPDGLLSELTQQLAQATGK	709.73	65.53	41.63	3	1064.10	48.00	64.64	2
NPVNYFAEVEQLAFD(+21.98)PSNM(+15.99)PPGIEPSPDK	810.90	63.42	39.3	4	1080.89	47.82	24.46	3
ILTTNTWSSELSK					740.42	28.37	60.67	2
VPGATM(+15.99)LLAK	508.80	18.45	38.81	2	508.82	21.41	40.96	2
VDEFVTHSLPFDQINEAFDLMHAGK	715.88	57.67	55.44	4	715.89	44.97	40.96	4
NVGSAGVTVVIV(sub I)R	635.89	25.81	27.03	2	635.91	26.34	39.9	2
ALELVTVLVGSPR	677.42	48.40	39.05	2				
TVMENFVAFVDK	700.37	47.10	54.56	2	700.38	39.52	61.13	2
LASTLVHLGEYQAAVDGAR	657.70	32.90	32.69	3				

AAVPSGASTGIYEALELR	602.34	43.14	58.34	3	903.01	36.79	73.47	2
PQFLGVAEQLHNEGFK	605.33	35.19	56.13	3	605.34	32.01	56.9	3
GLVLGIYSK	475.31	28.73	29.56	2				
EAEMLEVLR					545.33	29.73	38.57	2
GFGSDKEAILELITSR					579.35	39.01	42.46	3
SELATYPGITISNIC(+57.02)PGPVQSNIVK	886.82	47.76	51.93	3	886.85	38.85	34.89	3
LGPLAFYK	454.78	30.17	35.55	2	454.77	29.13	35.78	2
LSVISVEDPPQR	670.38	25.00	64.14	2	670.41	24.90	46.23	2
GDFVTSFYWPWQTK					881.41	45.61	64	2
DILNMEK					431.74	22.18	28.34	2
VC(+114.04)LIGCGFSTGYGSAVK					888.44	31.46	29.35	2
VQQTVQDLFGR	645.86	28.12	52.95	2	645.88	27.68	55.53	2
VETSD(+21.98)EEINDLHQR					853.91	16.55	37.72	2
AAVLWELNKPF	644.38	54.87	34.03	2	644.39	39.13	37.95	2
DVDPGEHYILK					643.36	21.50	43.4	2
ILLLDEATSALDTESEK					924.54	40.21	38.91	2
IIAVDINKDK					564.86	17.69	43.2	2
GFVDLVIK	445.78	36.62	35.38	2				
SQYLQQC(+57.02)PFDEHVK	593.63	20.49	31.97	3	593.66	22.25	30.31	3
ILDPFHYTSVAK					464.27	29.40	32.77	3
FQSSHHPSDMTSLDQYVER	566.78	23.30	59.75	4	755.37	24.46	56.9	3
LADMALALESAR					630.86	31.28	60.52	2
RELADPSSIR					572.35	14.81	34.71	2
LIALLEVLSQK					613.89	43.28	41.1	2
ALEEVC(+57.02)IETIEAGFMTK	647.66	53.28	28.56	3	971.01	42.96	54.35	2
AVQMGMSSVFFNK					723.36	33.21	76.64	2
SLIEAFDTWR					619.35	38.86	46.5	2
ALMPVAQHLNPVR					482.62	24.05	53.14	3
GLDVDSLVIEHIQVNK	593.68	42.50	32.73	3				
SLEDQVEVLR					594.35	27.20	43.3	2
VFSGLVSTGLK	554.34	28.52	29.7	2	554.33	27.60	45.5	2
GPLLVQD(+21.98)VVFTDEMAHFDR	737.70	51.68	43.62	3				
VSLDVNHFAPE(+21.98)ELTVK					910.50	32.88	46.67	2
GLAVSDN(+.98)GPC(+57.02)LGYR					740.38	26.59	33.77	2
LNS(-18.01)LTVGPR					469.79	18.23	38.53	2
IVNVSSILGR	529.33	32.96	55.21	2	529.32	30.40	42.11	2

KLEAAEDIAYQLSR	536.30	30.85	24.37	3	536.31	29.23	46.59	3
LEGVDISPK					479.30	20.45	27.57	2
STW(+31.99)LILHYK					596.83	26.03	27.69	2
LGLDSLSPFNPK	644.36	42.46	43.29	2	644.38	36.28	54.59	2
VTKPNIPEAIR	413.26	15.67	48.16	3				
KPLPDHVSIVEPK					486.97	19.26	53.68	3
GPLLVQH(sub D)VVFTDEMAHFDR					737.72	42.17	43.26	3
KYDVDTLDMVFLDHWK					675.70	40.41	72.13	3
LQAFQGYQVTMK					707.38	27.44	58.55	2
INMC(+57.02)GLTTK					519.28	20.64	39.85	2
VQVDEDDFVHIR					491.27	26.47	29.24	3
IGGGL	416.26	17.34	26.05	1				
IGGGI	416.26	17.34	26.05	1				
HLTPVTLELGGK	422.26	22.96	42.9	3	632.90	24.90	61.94	2
YPIE(+14.02)HGIVTNWDDMEK					654.35	30.94	27.59	3
SLAMEMVLTGDR	661.84	37.09	62.19	2	661.85	33.59	72.32	2
WV(sub L)PQNDLLGHPK					468.61	23.99	29.51	3
VALVTASTDGIGF	625.85	48.18	44.72	2				
WPDFQTVVIRPQEQDMK					706.39	34.84	55.65	3
GSLPQSVAYLTAPDLAR	587.00	42.55	41.67	3	880.01	36.18	70.24	2
TNRPPLSLSR					570.85	15.24	40.59	2
KIGFTGSTEVGK					612.36	15.86	47.25	2
IM(+15.99)DQALTVGAPVIGLNDSGGAR	724.40	40.01	38.82	3				
AVDAGLSVKPY	560.31	22.91	44.79	2				
EVGDVTIVVNNAGAIYPADLLSTK	820.46	56.63	48.44	3				
GTLQSYFD	465.73	34.02	23.84	2				
DMAIATGGAVFGEEGLNLNLEDVQPHDLGK					1037.57	43.77	51.56	3
INMAHLC(+57.02)IVGSHAVN(+.98)GVAK	498.80	25.13	24.39	4				
SQLLGSAHEVQR	442.25	12.00	35.41	3				
IQEIIEQLDITTSEYEK	684.70	46.39	55.47	3	1026.56	38.31	65.81	2
DGGSTTAGNSSQ(+.98)VSDGAAAILLAR	740.72	45.14	36.34	3				
QNLYLVGFGK	569.83	34.49	37.34	2				
Q(-17.03)LLQANPILEAFGNAK	855.48	66.14	39.95	2	855.49	48.84	33.19	2
VLTEEDIGHPEIGDAITR					655.72	28.36	42.08	3
AGTGVDNVDLEAATR					744.91	22.82	54.82	2
ILDVNVK	400.76	16.72	26.94	2	400.76	19.70	26.98	2

FFVVSSESR					529.29	22.79	32.73	2
WALSQSNPSALR	665.37	34.62	24.71	2				
EYQDLLNVK	561.31	26.80	46.5	2	561.32	26.56	46.4	2
KPLEALYGFDYFAR(+15.99)					569.32	36.13	33.71	3
LGDPAEYAHLVQAIIE(+21.98)NSFLN(+.98)GEVIR					964.53	49.80	40.4	3
IFSYDPENPPGSEVLQIQNILAEEPK	976.53	61.61	57.84	3	976.55	46.50	59.96	3
FSVNLDVK	461.27	26.32	26.14	2				
GIYLHPELFSIDN(+.98)GLLTPTMK	787.42	56.59	28.8	3				
ILVDYDEK					497.78	19.82	29.51	2
ELHLQGFVVYR	454.26	33.16	51.63	3				
LGEHNIDVLEGNE(+37.96)QFINAAK	563.04	36.37	44.93	4	750.39	32.14	41.62	3
LGTLPFR	402.25	24.40	25.2	2	402.25	24.64	32.38	2
KLDSLTTSFGFPVGAATLVDEVGVDVAK	946.18	61.75	44.42	3	946.22	46.73	49.59	3
KDLY(+9.03)ANNVLSGGTTMYPGIADR					789.09	32.69	23.14	3
AN(+.98)ATEFGLASGVFTR					771.42	37.18	49.5	2
IFINNEWHSSVSGK	539.96	22.02	49.27	3	539.96	23.42	48.78	3
FDVSSYPTLK	578.82	29.51	44.29	2	578.82	27.86	50.77	2
GLLVVSSEDFAR	646.86	34.93	51.55	2	646.87	31.83	51.88	2
IPADVDPLAITSSLSSDGVLTVN(+.98)GPR					865.84	46.10	30.79	3
IASTILTSPDLR	643.89	29.59	51.5	2	643.90	28.32	48.47	2
GLDLQGFLN(+.98)DLEK	731.89	49.71	27.92	2	731.90	40.38	30.69	2
LGEHNIDVLEGNEQFINAAK(+27.99)	747.07	36.98	49.58	3				
AVFWVEFVM(+15.99)R					650.34	40.73	42.53	2
ASSTSPVGISEWLDQK					852.96	34.98	65.75	2
EWPSDIDLR					565.82	30.10	35.58	2
IYQIYEGTAQIQR					791.95	26.11	65.97	2
LYQVEYAFK	580.82	28.97	37.12	2				
TGHSLLHTLYGR					452.25	18.94	42.28	3
QGSLYSLFPDHHVEK	439.99	24.59	46.95	4	586.32	25.97	47.08	3
LGIYTVLFER	605.85	47.82	40.64	2	605.86	39.55	38.52	2
MITPLVTK					451.80	22.46	34.04	2
EEIFGPVLVVLE(+21.98)TDTLDEAIK	784.77	66.72	32.23	3	1176.66	49.75	34.96	2
FGVIFAGAQK(+21.98)					530.30	27.29	23.57	2
LLDLTEDGLKEEFNLVR	668.72	50.72	36.82	3	668.73	41.19	55.77	3
LTFDSSFSPNTGK	700.86	28.17	60.75	2	700.87	27.06	71.65	2
CCM(sub T)ESLVNR	527.72	18.77	27.07	2	527.73	21.18	29.14	2

WEYVPLGPFLGK					703.40	42.31	50.87	2
LNDFASAVR	496.77	17.61	38.38	2	496.78	20.41	38.46	2
TFVQEDIYAEFVER	582.64	47.75	65.33	3	873.46	39.58	71.98	2
C(+39.99)FYNSDGDLLIVPQK					876.46	44.82	25.07	2
ALEDMFDALEGK	669.83	51.22	66.97	2	669.84	41.28	68.9	2
YTETGEGPISHLAATTLQR	682.37	30.10	26.05	3				
N(+.98)SNVGLIQLNRPK	485.29	24.89	33.35	3	727.42	24.32	39.2	2
AHLVHELR					487.81	15.51	36.13	2
DPSGFSPEVQK					595.82	18.57	48.77	2
IIGELHPDDR	582.82	28.59	43.01	2	582.83	28.48	43.18	2
YTAQVDAEEKEDVK					542.28	14.18	39.32	3
PGFFFEPTVFTDVQDHMF					1081.04	49.06	39.82	2
DFTPT(+27.99)DMAEFAAR	750.35	44.46	30.96	2				
KGDILTLLNSTNK	472.95	30.47	23.39	3				
FIDLLPSNLLHEATQDTVFR					777.12	46.03	32.93	3
SSPTPGVGALGAALAAAPSDPVPADLR	820.14	51.82	43.91	3				
ILTGLNYEAPK	609.86	24.81	45.38	2	609.87	25.43	55.37	2
SLPDLGLR	435.76	27.75	26.24	2	435.78	27.40	30.76	2
KVESLQEEIAFLK	511.97	35.48	53.48	3	767.46	32.78	63.71	2
DFLGGLAFR	498.28	45.64	39.03	2	498.29	38.27	41.52	2
GIETGAEDLEILPN(+.98)GLAFISSGLR					1237.24	48.30	34.29	2
DYALSPE(+21.98)DYALK					703.88	31.54	41.48	2
SPPIVDTAQGR					570.84	15.72	37.3	2
SQVTNYMGIEWMR					807.91	36.36	66.66	2
SVTGEIVLITGAGHGIGR	579.68	36.53	43.3	3	869.03	32.94	65.09	2
LC(+119.00)ENIAGHLK					406.21	15.81	28.92	3
GGHFAAFE(+37.96)EPELLAQDIR					680.01	37.14	29.36	3
TRPPVAAAAVGLAQR	493.30	18.42	51.19	3	493.31	20.91	60.51	3
DAFLGSFLYEY	662.83	66.37	39.68	2				
GAGTDEGC(+57.02)LIEILASR	831.42	46.99	32.58	2	831.45	39.20	36.08	2
VDVAVNC(+58.01)AGIAVASK	737.90	27.63	42.01	2				
FSGDVVLTAR	532.80	22.17	49.48	2	532.81	23.57	52.53	2
LATNAAVTVLR	564.85	21.69	48.75	2				
DFTPTD(+21.98)MAEFAAR					747.35	35.38	25.27	2
VAE(+21.98)QTPLTALYVANLIK	622.70	55.62	25.63	3	933.54	43.85	26.09	2
LGEHNIDVLEGNEQFINAAK(+28.03)					747.08	32.40	51.17	3

LVNHFVEEFK	421.24	21.76	40.62	3				
LDNIIEIHK	547.83	18.70	43.75	2	547.83	21.57	43.72	2
GGVVTSNPLGF	524.29	42.04	34.29	2				
EEIYSSVNQVK					648.37	19.23	41.22	2
GDVTAQIALQPALK	712.92	31.61	49.91	2	712.94	29.18	74.89	2
LSFSYGR	415.22	19.29	31.55	2	415.23	21.42	34.5	2
VVPGYGHAVLR					584.35	17.27	34.81	2
TASEAADDIIK					567.30	18.31	41.05	2
DRPFFPGLVK	588.35	31.04	26.38	2	588.35	28.70	51.24	2
AAVLWELNKPFSIEEVEVAPPK					822.83	41.94	52.81	3
ALDLFSDNAPPPELLEIINEDVAK	875.14	66.17	59.7	3	875.17	49.02	58.64	3
IALYETPTGWK					639.87	29.93	46.17	2
WGDAGAEYVVE(+21.98)STGVFTTMEK					767.04	42.12	37.46	3
TLKPTLFPTVPR					457.29	27.51	32.87	3
VLNTNIDGR	501.29	13.33	34	2				
VIVLTAAAQGIGR	634.90	30.50	57.95	2				
LALFNPDVSWDR					716.90	38.36	41.53	2
NDFQLIGIQDGYLSLLQDSGEVR	860.80	63.85	50.55	3				
TTYEIFQR	529.28	22.25	52.77	2	529.29	24.01	45.94	2
GFGFPQAGLITEAC(+57.02)ITEVAAK	727.39	54.40	26.66	3				
EATWVVDVK					523.82	25.96	40.67	2
YLDFVFAVK	551.31	47.11	32.41	2				
TAQNR					589.33	55.52	23.72	1
LLEVIPSR	463.80	25.18	33.06	2	463.81	25.66	29.51	2
AEAGDNLGALVR					593.36	24.18	44.11	2
VTALYEGFTVQNEANK	595.32	31.35	41.24	3				
LGELPSWILMR					657.88	42.08	42.53	2
FIGPSPEVVR	550.82	22.54	31	2				
VAPEEHPVLLT(+27.99)EAPLNPK	661.38	31.19	31.09	3				
IDNQC(+57.02)PSHLAIQEN(+.98)ANTLAR					756.09	24.11	28.32	3
TADDPSLSLIK					580.35	26.02	34.79	2
VLEGM(+15.99)DVVR	517.29	14.06	35.29	2	517.29	16.59	26.98	2
LIPHN(+.98)GYC(+57.02)DGK					637.85	14.90	38.48	2
VTTVGGTSFQNPFR	755.90	33.29	31.02	2				
LGPALATGNVVVM(+15.99)K	693.42	26.59	60.37	2	693.43	25.74	49.88	2
LFPDKESMLDAAFTLAAEISSK					795.43	48.75	50.47	3

TANVLTQTC(+57.02)GLQTGDR	867.94	21.77	46.5	2	867.96	22.88	46.65	2
LKQE(+21.98)YFVVAATLQDVIR					672.39	40.90	31.99	3
FHYGFNSNYLK	463.91	25.15	48.48	3	695.35	25.04	63.97	2
VLSLSFPIR					516.32	35.43	31.48	2
YGTTLEHFAK	583.81	14.24	49.06	2	583.82	17.93	68.56	2
YNEDLELEDAIHTAILTLK	734.40	60.94	29.1	3				
EAVLID(+21.98)PVLETAQR					788.47	34.06	25	2
IGDPLLEDTR					564.82	25.10	52.3	2
VDILLGEVLPLLQK	775.50	65.85	61.53	2				
IAGYVTHLMK					566.82	20.83	43.29	2
ALSPDMLATDLAYYLVR					956.54	49.05	66.46	2
GPSWDPFR					481.25	30.45	54.33	2
EISLDDFK					483.78	28.27	31.3	2
EIGYPVMIK					525.31	28.32	39.06	2
KEPALLELEGK					613.89	23.55	40.1	2
LDFPTMK					426.24	26.62	28.94	2
LLQYADALEHLLSTGQGVVLER					809.14	46.42	68	3
DSLLGE(+21.98)PGLGFK					627.85	34.47	34.73	2
ALQFADVIVLLGAR					743.44	47.65	72	2
DSINPYVYLPFGTGPR					898.48	42.46	50.29	2
LAAVDATVNQVLASR	764.44	38.18	70.51	2	764.47	33.21	75.66	2
EVSQPNWTPPPEVTLVLTK					1068.12	41.01	44.23	2
AIWNVINWENVTAR					843.46	42.05	70.85	2
EVGEALC(+57.02)TDPLVSK					759.43	27.17	42.07	2
ATID(+21.98)EEGYFWFLGR					863.44	45.74	38.4	2
SSVDPSHAAVVNR					669.89	13.57	38.4	2
GLSAGIFTNDIDK	675.86	34.02	43.44	2				
C(+57.02)LDAFPNLK	539.28	28.49	37.35	2	539.30	28.15	42.09	2
HGVFVGSAMR					530.79	15.55	42.35	2
QTIGPVAAFR	530.31	23.65	34.77	2				
VLDASWYSPGTR					676.37	27.38	61.48	2
HLSVN(+.98)DLPVGR					604.35	22.52	41.35	2
EVDVGLAADVGTLQR					771.96	31.15	64.58	2
QIPLNEQFLR	629.37	32.10	35.11	2	629.38	30.38	35.76	2
Q(-17.03)EYDESGPSIVHR					750.37	21.51	43.55	2
QTGLLLLGMK					537.33	33.76	26.03	2

LPIFIADAFTTK	668.89	50.50	38.75	2	668.89	41.09	49.46	2
LFGGDFAHQASVAR	492.60	23.22	38.56	3	492.61	24.34	34.45	3
LFVE(+21.98)DSIHDQFVR					813.94	30.21	38.49	2
LEVE(+21.98)LGNMQGLVEDFK					921.99	43.72	28.59	2
LAGSPLPQDR					527.32	16.96	32.91	2
LGLDYEER					497.76	20.94	45.38	2
QLFENLR					460.27	23.92	26.88	2
LTYSTEVFLDR	672.35	34.07	44.56	2				
YFPVFEK					465.26	28.02	24.82	2
AFVVLAPHFL	557.33	49.60	22.87	2				
ALDLAENEM(+15.99)PGLMHM(+15.99)R	620.63	24.71	22.98	3				
TILYAFLDK					542.32	35.23	32.5	2
MEDALDSYVIR					656.37	30.34	54.88	2
IPLSQEEITLR	649.88	29.36	36.08	2				
AHGAWAVVTGATSGIGK					528.30	26.04	54.85	3
VEIATLTR	451.77	18.18	27.21	2				
ITDVEHITGLSFYQER	636.68	37.18	30.86	3	636.69	32.69	66.89	3
LIVGLMRPPAYADAK					538.98	29.33	25.65	3
YVISAVPPVLGM(+15.99)K	695.41	37.04	29.87	2	695.41	32.28	42.9	2
VFVFDVMHEGYLMTAPEIQR					794.77	44.64	54.66	3
Q(-17.03)AQYLGVSR	502.78	27.87	37.01	2				
VLDFEHFLPM(+15.99)LQTVAK					635.36	42.62	37.35	3
VLIAAHGNSLR					575.87	15.64	37.29	2
NFLASQVPFPSR	681.87	36.93	63.24	2	681.88	32.04	53.13	2
IHELYLPK					506.82	20.25	45.98	2
TGEYPVPLIK	558.83	28.45	53.07	2	558.84	28.17	61.13	2
FSYGNVIER	542.79	22.65	44.12	2	542.80	24.12	47.24	2
VLVIGLGNSGC(+57.02)DIASELSHIAEK	794.78	53.41	25.02	3				
FATVEVTDKPVDEALR					597.36	26.99	39.67	3
MLSEVLLVSAPGK					672.41	33.56	53.75	2
FVFITGC(+57.02)DSGFGNQLAR	630.33	45.09	46.34	3	944.98	36.65	54.42	2
EMEEFVQSSGEN					693.30	23.28	33.53	2
IALYETPTGWK(+14.96)	647.34	26.29	35.85	2				
LGSFLYEYSR	617.82	32.09	30.72	2				
SIGVSNFN(+.98)HK					552.32	15.67	33.33	2
QLEEVDLEYFEEAANLLLAHPK					857.82	49.03	28.36	3

M(+15.99)GLVDQLVEPLGPGVKPPEER	759.43	41.01	38.86	3	759.43	35.06	24.83	3
YRPGTVALR					516.81	13.89	35.04	2
VLYPN(+.98)DNFFEGK					722.37	33.99	30.43	2
PAEIDSLWEISK					694.39	35.85	38.08	2
GQVYILGR	453.27	19.29	40.94	2	453.28	21.53	36.88	2
EDLEETFISLGR					704.90	38.77	51.66	2
NFLSTPQFLYR					693.37	36.35	26.59	2
IASVQTNEVGLK	629.87	17.57	41.25	2	629.88	20.29	46.6	2
VIWEDIFPK					573.84	39.84	39.99	2
EDPNLVPSITNK					663.89	24.98	26.65	2
PGMLDFK	404.22	23.50	28.61	2	404.22	25.16	27.96	2
SMFAGVPTMR					548.80	28.93	26.09	2
IWHHSFYNELR					501.26	20.51	54.29	3
AVEHLDDLPGALSELSDLHAH	560.55	44.89	34.55	4				
LGEPIPISK	477.30	20.15	45.18	2	477.30	22.38	39.62	2
EGNAIFTFPNTPVK	767.92	39.22	30.49	2				
LVIIESDLER					593.88	28.51	35.14	2
VLELVSITANK	593.86	32.03	47.81	2				
WLSMNVLM(+15.99)LDEK					747.91	39.72	49.61	2
YLESDGIK					462.76	15.45	23.83	2
YGLLVGGAAAHR	592.84	16.65	54.67	2	592.85	19.10	58.54	2
NILGGTVFR	488.79	29.65	28.42	2	488.79	27.76	30.19	2
NN(+.98)FEGEVTK					519.76	17.20	31.48	2
AVEHLDDLPGALSELS(+27.99)DLHAHK	479.86	41.63	39.67	5				
VALVTASTDGIGFAIAR	831.48	51.34	45.83	2	831.50	37.57	74.96	2
AQFGQPE(+37.96)ILIGTIPGAGGTQR	538.04	44.98	33.33	4				
VGLVAVDK	400.76	14.98	27.77	2	400.76	17.89	31.68	2
AEFVEVTK	461.74	14.86	22.98	2	461.77	17.80	35.44	2
GPLLVQDVVFTD(+14.02)E(+14.02)M(+15.99)AHFDR	745.04	46.03	28.39	3				
NC(+57.02)MSEFMGLIK					665.34	38.48	38.73	2
VC(+57.02)NPIITK	472.78	13.78	28.78	2				
L(+27.99)LGNVLVVVLAR					647.43	50.97	46.27	2
IW(+31.99)HHTFYNELR					516.60	20.28	41.4	3
YYTLE(+21.98)EIQK					604.82	24.65	32.19	2
VEAAVGEVLFQEAHEVILK	694.39	51.83	25.14	3	694.42	42.74	31.8	3
IGEVFELEEVNDAFLHVTQR	782.43	55.55	33.16	3	782.43	44.23	47.44	3

YILSDNSPAPEFPLSYLTSENR	838.44	56.64	32.63	3				
HLIIGVSSDR	548.82	14.70	24	2	548.83	18.15	40.3	2
QIIQANPLLEAFGNAK	864.00	52.02	31.49	2	864.00	41.38	67.23	2
IGLLGGNATR	486.30	18.43	36.37	2	486.30	21.24	23.18	2
AVFQANQDNLPILK					785.97	32.89	59.2	2
EGGLLTLAGAR	529.32	28.55	32.59	2	529.33	28.19	45.69	2
Q(-17.03)VLIDQSEEFSGR					745.90	34.18	35.54	2
LVPGPVFGSK					500.81	23.83	27.02	2
KEPISDILK					521.83	20.85	38.43	2
Q(-17.03)GSLYSLFPDHHVEK	580.64	35.29	32.1	3	580.65	32.22	24.8	3
VNC(+57.02)LAPGLIR					556.84	25.59	33.95	2
YYVGDTTDVLFEK	775.40	38.09	38.96	2	775.41	33.32	59.46	2
TQLEELEDELQATEDAK					981.50	37.59	63.98	2
LVFLGLDNAGK	573.85	44.02	28.04	2	573.85	33.12	34.46	2
ANLQIDQLNTDLNLER	624.01	41.67	54.27	3	935.52	35.32	47.5	2
EEATDLSSLKPK					659.39	18.60	42.12	2
STAGDTHLGGEDFDNR					564.60	16.76	43.26	3
DALSDLALHFLNK	486.28	62.17	31.46	3	728.92	43.73	52.74	2
MATEVAADALGEEWK					810.94	32.10	55.68	2
SGGFLSHWDQLTR	501.93	33.82	46.53	3	752.41	31.83	50.33	2
DGSIDLVINLPN(+.98)NNTK	864.46	45.33	38.93	2	864.48	38.18	42.58	2
QTQEYEALLNVK	718.40	30.59	52.65	2	718.40	29.20	56.68	2
FINTGFIK	470.28	26.19	26.47	2	470.28	26.11	27.53	2
LGPNYLQIPVN(+.98)C(+57.02)PYR					903.00	36.05	24.54	2
ISGPR	529.33	23.69	26.12	1				
WLLELSQK					508.82	32.55	34.99	2
NFAATIPRPF					567.32	33.34	35.66	2
LSYVDFLVYDVLDMHR	662.35	64.97	59.79	3	662.36	48.73	58.26	3
LIEGVLDFK	517.31	37.51	24.97	2	517.32	33.51	26.15	2
YVLGNPLTPGVSQGPQID(+21.98)KEQYEK					894.83	30.48	25.93	3
TYFPHFDLSHGSAQ	536.27	31.45	33.96	3				
LLGPLGM(+15.99)K	422.76	18.57	23.78	2				
GDTVFFHPLLIHGSGR	585.00	32.09	55.94	3				
VM(+15.99)TIAPGLFGTPLLTTLPDK	701.07	58.00	31.64	3	1051.11	45.00	38.04	2
GLSSLLYGSIPK					617.86	35.47	52.46	2
VNPLGGAVALGHPLGC(+57.02)	766.42	39.97	28.12	2	766.44	34.58	36.88	2

SADTLWGIQK					559.82	26.31	56.15	2
TLIGHVPDQR	568.32	13.09	53.36	2	568.33	16.50	52.1	2
ALGDLISATK					494.81	26.38	37.67	2
VTQSNFAVGYK	607.33	16.79	54.09	2	607.35	19.82	60.02	2
AIGGIILTASHNPGGPN(+.98)GDFGIK					736.43	34.26	30.8	3
LNSLTVGPR	478.79	15.04	36.76	2	478.81	17.93	39.02	2
GALQAIDQIALFR					708.44	41.95	47.8	2
AAQKPDVLTTGGGNPVGD(+21.98)K	616.33	14.43	34.4	3	616.34	17.60	41.8	3
A(+42.01)HQFPALTSEQK	699.87	21.55	38.71	2	699.88	23.33	38.31	2
FIPVLGFGTAEAK	675.39	42.79	29.69	2	675.39	36.44	38.16	2
A(+42.01)ESSKPILYSYFR					801.94	34.37	33.98	2
SQAHTLEDFQR					666.36	15.89	51.67	2
VNAGDQPGADLGPLITPQAK	654.69	34.70	64.41	3	981.55	30.80	52.97	2
VEAQLQELQVK					642.91	23.95	43.68	2
IM(+15.99)DLLGDR	474.76	19.73	27.38	2	474.78	21.80	26.75	2
GGHPK					495.30	53.55	24.94	1
FGSLMDVPEEVWDK					826.42	41.12	48.89	2
M(+15.99)LVGTVFQK	519.80	20.85	34	2	519.80	22.47	34.39	2
GVVDSEDLPLNISR	757.41	36.67	65.63	2	757.42	32.11	61.09	2
HSQSFNVEELTNILDGGAQNTALR	872.13	51.56	58.58	3				
GLNSESITEETLKK					774.96	20.20	50.98	2
MAENLGFLGPLK	645.36	40.67	44.88	2	645.38	35.67	60.88	2
EIIDLVLDR	543.33	43.72	47.78	2	543.33	37.00	42.31	2
ALGGLGSGLC(+57.02)PNR	636.34	23.16	26.41	2	636.36	24.09	35.56	2
TYWDFSFPR					609.83	38.40	23.65	2
ESVFTVEGGHR					609.33	16.97	45.76	2
TSC(+114.04)LCPVFVNTGFTK					865.94	32.67	31.66	2
TILEELVT(+27.99)R	551.32	38.01	22.97	2				
LLLQVQHASK	568.86	13.76	37.37	2	568.86	16.20	50.27	2
GYLGPEQLPDC(+57.02)LK					745.39	31.32	32.62	2
LSGAQADWHIEDGDSIQFGR					734.71	31.82	49.94	3
EIDGGLETLR					551.82	23.64	40.49	2
ATNMTVSAIR	532.30	14.85	61.21	2	532.31	18.10	62	2
VSLYNAVTVEDVQK	782.93	31.48	63.41	2	782.95	29.29	58.42	2
VEIEAIAVQGPLTTA	756.42	49.36	41.28	2	756.45	39.92	36.95	2
KVETSDEEINDLHQR					604.98	14.43	54.62	3

SLAM(+15.99)EMVLTGDR	669.83	27.20	47.57	2				
VTNVGDGTTHSTALELFLYLNEVAGK	917.17	64.47	47.05	3	917.17	45.72	62.2	3
MPEEM(+15.99)LAEK					547.26	15.51	38.81	2
FELTGIPPAPR(+14.02)					606.37	30.85	38.06	2
GITFDSGGISIK					597.85	31.41	59.34	2
TAVVTGANSGIGK	587.83	12.47	40.19	2				
Q(-17.03)AALVLDGLEAR	619.85	52.04	31.56	2				
MAEDLILYGTK	627.33	32.53	46.65	2	627.35	30.14	52.5	2
AEN(+.98)AC(+57.02)VPPFTVEVK					781.44	30.47	29.35	2
GEFQLLLD(+21.98)ALDK					692.39	45.39	43	2
DNIQGITKPAIR	442.61	16.60	41.15	3	663.41	19.38	44.54	2
VAGLLVLNYSDDYHHW(+31.99)LATK					783.09	35.76	33.76	3
DGPLNMILDDGGDLTNLIHTK	751.41	61.99	35.09	3	751.42	46.67	57.88	3
AAVTAFWGK(+27.99)	489.77	27.49	23.2	2				
M(+15.99)PLIGLGTW(+31.99)K					582.31	30.28	25.51	2
ITPSYVAFTPEGER	783.90	30.17	53.91	2	783.92	28.69	49.86	2
DVAPQAPVHFLVIPK	544.33	39.18	30.77	3	816.00	34.41	52.2	2
SDD(+21.98)VINASGYR					609.79	18.57	23.74	2
N(+.98)FSDVHPEYGSR					704.85	20.93	38.99	2
LTADAAHFLR					557.83	22.83	33.2	2
LELLAHLLGEK	412.60	58.33	25.11	3	618.39	35.97	52.96	2
LFDQAFGLPR	582.33	46.85	44.6	2	582.32	34.03	59.67	2
DAGMQLQSYR	584.79	18.66	58.47	2	584.82	20.27	45.57	2
ALELN(+15.99)MISLK	574.33	31.68	27.57	2				
DGDD(+21.98)VIIIGVFK					656.87	41.24	26.54	2
APEAWDYSQGFVNEEMIR					1071.53	38.38	71.32	2
ELGEYGLQAYTEVK	800.42	34.88	66.99	2	800.45	30.78	57.79	2
LVILMDPFEDDLKK					559.33	39.41	24.12	3
GAEVHVVPWNHDFTK					579.32	24.33	73.27	3
NDLMEYAK					492.24	20.43	42.42	2
LN(+.98)SLTVGPR	479.28	18.15	37.77	2	479.29	19.88	34.35	2
VIGSGC(+57.02)NLDSAR	624.82	13.14	37.79	2	624.83	15.58	45.66	2
LYLNEVAGK	503.79	18.93	24.29	2				
NVQFLVK	424.26	19.44	27	2				
VVAGVANALAHR	589.36	15.60	69	2	589.35	17.95	71.34	2
LFPAGLDQTDMHGDSEYNIMFGPDIC(+57.02)GPGTK					1128.56	42.01	32.16	3

LQSDVAVPIPK	583.85	25.33	54.38	2	583.87	25.70	52.88	2
EGAIQVQGQSLFFR	790.43	39.32	49.74	2	790.45	34.29	53.73	2
VHPDPGTWDSFLEK					543.29	31.78	46.51	3
AILESIAFR	510.31	33.97	38.71	2				
LGAGYPMGPFE(+21.98)LLDYVGLDTTK					793.76	49.34	36.29	3
GPLNWYR					453.24	24.86	44.05	2
IHNFGLIQEK					599.86	21.25	43.68	2
VKPLLQVSR					520.34	16.70	23.95	2
VAPEEHPVLLTEAPLNPK	652.05	29.11	55.7	3	652.06	28.32	52.2	3
VMTIAPGLFGTPLL					715.42	49.28	41.09	2
GIYTGLSAGLLR	610.86	37.72	56.5	2				
QMSLLLR	430.76	25.37	25.4	2	430.77	26.50	30.79	2
GGEIQPVSVK					507.32	16.13	37.08	2
DFSSVFQFLR	623.33	61.74	45.5	2	623.34	46.63	48.86	2
VLLLSQDYGK					568.33	26.41	23.63	2
MNFSPPGDK					496.76	18.59	34.25	2
EVAFWN(+15.00)ELLSR	689.86	36.68	25.25	2				
EEIFGPVMSILSFD(+21.98)TEAEVLER					845.12	49.65	32.06	3
SFGGVTHGPPEK					606.85	13.36	56.16	2
WSGPLSLQEVDERPQHPLQVK					611.61	29.60	46.29	4
SVAFDHADPSIFTVLTAK	640.36	46.61	33.41	3	640.37	39.05	50.06	3
EEIFGPVQQIMK	709.89	41.61	45.58	2	709.90	35.58	48.14	2
MTLADIER					474.78	24.94	29.89	2
SLGQW(+15.99)LR	438.25	19.37	26.47	2				
LN(+.98)DGHFIPVLGFGTFAPR	653.70	61.87	33.08	3	653.70	43.64	49.5	3
ALKPGEELFPK	410.25	19.29	37.83	3				
AQSELLGAADEATR					716.38	22.34	63.96	2
EDEDDKTVSDLAVVLFETATLR	822.77	66.09	33.68	3	822.79	48.99	41.5	3
DFSELEPDK					540.26	23.35	38.92	2
VIMVTGDHPITAK	461.27	16.31	37.47	3	461.28	19.70	43.81	3
IFTNLYGR	492.28	23.12	35.84	2	492.27	23.98	27.4	2
TITLEVEPSDTIENVK					894.52	31.48	36.12	2
LSNIFVIGK	495.81	32.27	31.2	2	495.81	30.34	44.63	2
GVFIVAAK	402.76	19.56	34.72	2	402.77	21.60	32.76	2
FVFSLVD(+21.98)AMN(+.98)GK					675.85	40.07	45.86	2
VIIETFFK	498.81	39.80	32.75	2	498.80	34.05	36.83	2

TPLPADTPVVK	569.35	19.79	39.27	2	569.37	21.73	49.77	2
SGLIFYR	428.25	25.80	30.52	2				
HYLFDVQR	539.30	19.71	35.8	2				
SSPQFGVTLLTYELLQR	651.37	61.04	35.61	3	976.56	46.22	66.57	2
FSHGTMPLR					523.30	14.88	31.02	2
IHLISTQSTIPY	686.90	33.79	24.72	2				
ALDQLGIPVYNHTDK	561.99	29.23	39.58	3				
PAQVTPLTALK	569.85	24.09	35.23	2	569.86	24.79	45.68	2
LKDLEALLNSK					622.39	28.85	29.07	2
GTAVVSGE(+21.98)FK					508.79	16.96	30.99	2
SGGLDTSC(+57.02)ILVWLK					774.93	44.06	41.91	2
IEVVNFLVPH	583.84	46.70	31.71	2				
SESITEETLKK					632.85	14.46	25.83	2
QGFIDLPEFPFGLEPR	621.34	63.51	45.04	3	931.52	48.25	42.91	2
GPGTSFEFALK	577.32	32.31	53.09	2	577.33	30.54	63.78	2
VYC(+57.02)GHEYTINNLK	537.62	16.41	33.46	3				
YQVQTQENYEAFM(+15.99)K					897.97	23.12	35.67	2
FVSISDLLVPK	609.37	50.09	36.61	2	609.37	40.46	56.83	2
YVDLGGSYVGPTQN	735.36	32.57	52.47	2				
QGTFHSQQALEYGTK	565.62	13.49	50.35	3				
ILYSQC(+57.02)GDVMR					671.35	22.23	36.51	2
GPFTDVVTTNLK					646.38	30.00	33.68	2
FDAVIGYK	456.76	22.21	41.8	2	456.76	23.71	45.44	2
AAQKPDVLTTGGGNPVGH(sub D)K					616.36	17.43	28.87	3
YVNWIQQTIAAN					710.89	38.93	49.63	2
KGDIFLVR					474.31	21.12	44.9	2
TFAYTNHTVLPEALER	621.34	30.97	46.03	3	621.35	29.43	53.45	3
IESILMSLPLTAR					722.43	41.06	49.82	2
GSTAPVGGGAFPTISTR	788.43	28.05	54.57	2	788.45	27.25	68.15	2
LLLEYTDTN(+.98)YEER					830.44	30.24	35.4	2
VLDSGAPIR	464.28	13.82	41.04	2	464.28	16.41	44.22	2
GLGTDED(-18.01)TIIDIIAHR	574.32	48.74	30.26	3				
LTLAELNQVLYR	716.93	48.64	53.3	2	716.93	39.02	61.03	2
DGALTQLNVAFSR	696.38	39.52	38.08	2				
ALLFVPR	408.27	28.92	36.71	2	408.26	28.61	42.63	2
LGTGK					475.29	29.65	24.2	1

GTTILTSLTSVLHDGK	548.33	45.37	51.48	3				
LLETIDQLYLEYAK					856.50	44.18	57.89	2
ASNEIFPSLDK					610.84	28.08	43.81	2
STESVILQER					581.34	20.01	41.68	2
EIMAEIYK					498.79	23.88	28.44	2
LLFADGSR	439.75	20.01	32.48	2	439.76	22.20	30.61	2
AHGAW(+31.99)AVVTGATSGIGK					538.96	22.69	33.23	3
IGVTVLS(+27.99)R	436.77	21.48	22.71	2				
FFESFGDLSTADAVM(+15.99)N(+.98)NPK	702.99	44.19	42.57	3				
FEISHLR	451.26	13.99	33.34	2	451.27	17.39	34.03	2
IAAFADAAVEPIDFPLAPAYAVPK	819.80	61.14	57.18	3	819.81	46.49	68.14	3
PTWGN(+.98)HTPIFR					442.92	26.06	27.89	3
DLIGVQNLLK	556.85	44.63	36.85	2	556.87	37.67	33.75	2
VIISAPSADAPM(+15.99)FVM(+15.99)GVNHEK	749.06	31.07	24.78	3				
FLQASEELLK	589.33	29.54	36.19	2				
SLPEETVDHIVQR					761.95	24.62	40.68	2
GLAPGQPVTLR	554.84	20.25	40.73	2	554.85	22.55	43.28	2
HDIGATVHELSR	445.58	12.99	59.28	3	445.58	16.29	58.34	3
QTPALVVLR	498.82	24.73	36.25	2				
YPDPLLK					423.26	23.20	24.4	2
QEYDESGPSIVHR					506.26	16.61	49.3	3
AADNIGYPVM(+15.99)IR	668.36	26.25	29.58	2	668.37	26.10	42.49	2
IINE(+21.98)PTAAAIAYGLDK					841.48	33.76	24.93	2
ADTIGVSLIK	508.81	27.44	43.01	2	508.82	27.36	46.52	2
YETELAMR					506.75	19.13	54.24	2
IMGDIFSQGFGPFR					786.41	43.53	57.01	2
DFSLEQLR	504.28	33.58	30.09	2	504.28	30.76	38.38	2
SNVGLIQLNRPK					669.90	20.95	41.53	2
TTGIVMDSGDGVTH					695.36	20.60	35.25	2
SLQQVWTPVVVLN(+.98)GLAAVR					684.41	44.73	48.71	3
SLVNLGGSK	437.75	15.34	29.65	2				
LLEVISGER	508.30	25.91	39.6	2				
FLEDYFD(+21.98)GNLK					691.84	35.64	26.15	2
NHGLSDEHVFEVIC(+57.02)PSIPGYSFSEASSK	774.14	44.93	22.97	4	774.15	37.30	24.28	4
AGVSISVVHGNLSEEAAK	589.99	22.51	37.01	3				
TDVAAPFGGFK	555.30	29.65	43.5	2	555.31	28.49	46.55	2

TVVLVDQTEDILEK					801.49	33.88	41.54	2
NLTQYNWLLDGFPR					868.97	43.97	68.21	2
YLGTQPEPDAVGLDSGHIR	675.70	26.52	73.36	3	675.73	25.53	46.44	3
DNPQTHYYAVAVVK	535.62	20.42	35.94	3	802.94	22.43	78.02	2
DIEVQGFHIPK	428.24	32.23	31.56	3				
LTGVFAPR					430.76	20.47	23.86	2
PIFIDGDYPEVVK	746.40	39.87	42.64	2	746.42	34.51	49.34	2
VLTVINQTQK	572.35	15.12	38.92	2	572.36	17.94	34.24	2
IM(+15.99)FVGGPNTR	554.30	18.17	31.98	2				
AVAAINHVQDIHF	478.94	28.79	29.52	3				
LVTTGVLK					415.79	18.84	31.45	2
LLEELGGIK	486.30	28.64	35.33	2	486.31	27.67	35.39	2
TSSSTFQYITLLK	744.91	42.19	47.44	2	744.91	35.85	61.86	2
LVLWDINK	500.80	35.90	34.28	2	500.82	33.00	34.69	2
YAFQEALNSAGEK	714.36	26.24	62.64	2	714.37	26.19	57.95	2
MPSQPDVSSDEDIQYR					933.96	23.46	31.31	2
VTVVDINESR					566.34	19.82	45.38	2
SVGMIAGGTGITPM	646.34	41.01	34.66	2				
FLTTDDIHLGVNESLTDTAR	740.05	40.50	47.28	3	740.07	34.31	52.91	3
IFPVETVVEEAIQCAEK	635.69	66.81	57.71	3				
FAAATGATPIAGR	602.34	16.93	40.7	2				
C(+39.99)SQFIPMEVISAPR					809.43	46.44	24.22	2
SILFVPTSAPR	594.35	33.15	39.26	2	594.36	30.31	47.39	2
VM(+15.99)QSSSDAIYLAR	728.87	18.84	31.23	2				
TVLM(+15.99)NPNIASVQTNEVGLK	682.06	33.85	39.15	3				
EYSLDEVMTSR					665.35	28.32	55.98	2
VLNNR					615.33	52.52	25.47	1
SQLETSLQR					531.32	15.65	37.14	2
LVDTFLEDVK	589.83	36.01	41.99	2	589.84	32.69	45.57	2
YQLAITQR					496.80	21.01	31.33	2
NYAGVFTDAGLTLK	735.40	40.56	29.6	2				
ISSLLQDAQR	565.82	18.88	48.04	2	565.84	21.61	45.62	2
GKLPPGPTPLPIVGN					728.94	30.83	36.83	2
IEIESFYE(+21.98)GEDFSETLTR					1094.06	40.24	41.44	2
WLHFYEMK					577.30	28.18	30.36	2
HVTVIGGGLMGAGIAQVAAATGHTVVLVDQTEDILEK					918.54	48.08	61.94	4

LEILQIHTK	547.84	21.44	31.05	2	547.86	23.96	44.67	2
DIWNMEPSDIK					674.37	33.86	38.39	2
LQLLEPFDK	551.82	37.74	28.54	2				
AMQELWLR					523.80	29.75	45.01	2
LYEIGAGTSEVR					647.88	22.57	40.67	2
YDNIVIGAGFSGHGFK	561.29	32.43	60.3	3				
QVVAQILPFR	585.87	37.14	36.18	2	585.86	32.97	54.68	2
NHEGLLLM(+15.99)DTTFR	521.61	26.36	31.69	3				
NILDFPQHVSPSK	494.62	27.12	29.68	3				
DLMPHDLAR					534.31	21.37	40.14	2
NPVNYFAEVEQLAFDPSNMPPGIEPSPDK					1068.23	48.68	56.77	3
DPFVGEHTEEILK					757.42	26.36	55.41	2
LEVELGNMQGLVEDFK	910.97	54.90	55.85	2	911.00	43.65	62.03	2
ISYEAGILENPK	667.37	26.28	39.38	2				
YYTQFSDHMTFLQR					612.98	31.52	36.18	3
DFATVYVEAIK	628.34	41.48	49.15	2	628.36	35.61	55.19	2
MAQLVPSHIK					562.35	18.60	36.76	2
DASVVGFFK	485.27	35.87	38.33	2	485.28	32.53	53.06	2
C(+57.02)FGGLFGYTER	653.81	36.29	41.25	2	653.83	33.14	41.71	2
MDELQLFR					526.29	32.42	45.19	2
GLAPVQAYLHIPDIIK	583.36	51.10	30.35	3	583.35	40.81	36.87	3
FLPGPLFM(+15.99)K					533.29	49.89	40	2
VYNE(+21.98)AGVTFT					561.80	26.87	32.38	2
LAASEAATAITH					578.35	19.65	47.08	2
VHC(+57.02)LYLGR					509.29	15.69	27.61	2
NYAHALDGLYR	431.57	22.75	45.93	3				
LAASEAATAITHQAM					743.40	27.63	69.68	2
AVVVIQDIFGWQLPN					849.99	49.42	57.26	2
TSFYEEYGVIR	682.34	32.85	31.06	2				
ADMVIEAVFE(+21.98)DLNLK					864.97	48.55	38.55	2
FIYEGSSDFSC(+57.02)LPTFGVILAQK					827.11	46.37	34.48	3
M(+15.99)TSSDLLNALK	604.83	30.38	26.69	2				
ILTEAEIDAHLVALAERD	660.36	46.63	24.11	3				
WEAYDATYLVK					679.87	32.04	45.86	2
VADLETISTATGR	667.37	23.77	58.63	2	667.38	24.30	58.11	2
TVDNFVALATGEK	682.87	35.39	53.57	2	682.89	31.96	64.26	2

VALSPAGVQALVK	626.90	35.30	46.12	2	626.90	31.00	59.07	2
DGTAAIHFEHAWGDGVAVLR					708.05	33.88	76.23	3
FPAMSDAYDR					586.80	23.17	51.34	2
HIADLAGN(+.98)AEVILPVPAFNVIN(+.98)GGSHAGNK	750.17	52.79	25.13	4				
FPGIPFPLDAAVECHRG	609.33	48.11	34.62	3	609.34	40.39	50.94	3
SELSGNFEQVILGM(+15.99)	770.38	53.62	23.89	2				
DIVHSGLAY					487.79	26.13	26.64	2
VVFIFGPDKK					575.34	26.16	46.45	2
NPEIQAALHK					560.85	15.34	37.29	2
DPTVYFK	435.23	21.08	23.07	2	435.24	22.53	29.59	2
IMGTSPLQIDR	615.85	25.66	47.86	2	615.86	25.93	46.62	2
VIPATDLSEQISTAGTEASGTGNMK	826.76	36.83	53.94	3	826.78	31.85	60.13	3
AAVTAFW(+43.99)GK	497.77	22.26	33.53	2				
LVAGEM(+15.99)GQNEPDQGGQR					901.44	12.98	36.45	2
TGIIFM(+15.99)PGTTQMK					720.90	28.00	39.44	2
ALDDTKPDGSYPAIIGF	890.45	47.97	28.41	2				
SGLAAYVAK	440.26	15.52	22.84	2				
VDGLVSLLTTSEDADEPR	639.67	47.45	45.05	3				
LLC(-33.99)GGGAAADR					485.29	15.21	26.12	2
LKLEVELGNMQGLVEDFK	688.06	53.60	50.24	3				
FSLSWSR					441.74	28.19	27.38	2
VAVLVMGR					422.77	22.29	41.46	2
TFPAWADTSILSR					732.91	37.81	47.69	2
LLPWDPK					434.77	28.22	27.85	2
ELDELVSAVEEHFFQPQK	715.71	60.90	27.66	3	715.73	46.71	27.38	3
IM(+15.99)GPNYTPGK	547.28	12.68	22.83	2				
GLGTDED(+21.98)AIINVLAYR	581.32	52.87	32.16	3				
AHFPIIDDTQR					656.86	23.54	59.36	2
EELEEVIKDI					608.84	36.96	30.17	2
ALM(+15.99)GLYR	420.23	15.57	26.59	2	420.23	17.60	23.11	2
VLDGLHNELQTIGFQIETIGK	775.77	56.10	46.24	3	775.79	44.21	49.26	3
LITLEEEM(+15.99)TK					611.85	20.97	23.7	2
LGAPQAGLR	441.77	13.14	33.43	2	441.78	15.78	37.5	2
IMGLDLPDGGHLTHGFMTDK					719.05	35.49	34.81	3
Q(-17.03)YFQSSFPAR	607.30	37.33	36.49	2				
SELSGNFEQVILGM	762.38	62.32	37	2	762.41	47.33	28.21	2

TVQSLEIDLDSMR	753.90	39.58	56.62	2	753.90	34.55	62.39	2
FEISHIR	451.26	13.99	33.34	2	451.27	17.39	34.03	2
QVAEQFLNIR	609.35	30.40	44.48	2	609.36	29.11	53.91	2
IVEADTPGVQIGR	677.88	21.57	44.73	2	677.92	22.44	36.23	2
SLLVTLASHLPSDFTPAVH					669.05	42.56	27.68	3
YVDLGGSYVGPTQN(+.98)HILR	664.03	32.21	39.6	3				
ILGPGLNK					406.28	17.00	23.61	2
PTVVLHGYEAVK	438.27	16.70	45.45	3	438.27	20.22	51.65	3
GLFIIDPN(+.98)GVIK	643.89	48.60	34.66	2	643.90	41.10	38.99	2
IGFPWSEIR					552.82	36.95	33.63	2
GQYISPFHDIPIYADK	622.01	38.36	39.53	3				
GVQDIVVGEGTHFLIPWVQK					741.43	43.88	33.72	3
LSSPATLN(+.98)SR					523.81	16.24	41.97	2
YPITQC(+57.02)LAAPSVYR	546.97	33.68	23.26	3	819.94	29.58	52.2	2
FFGNLMDASK	565.28	31.94	53.54	2	565.30	30.22	49.04	2
IPAFGSIPTEFR	667.86	41.57	35.8	2				
NNFAVGYR	470.75	14.99	44.22	2	470.76	18.00	25.39	2
SLAM(+15.99)EM(+15.99)VLTGDR	677.83	18.62	48.89	2	677.86	20.69	44.68	2
FFDAYHDLMK					643.83	30.25	69.66	2
SMVLGYWDIR					620.34	37.69	52.65	2
YYVTIIDAPGHR	468.93	24.06	60.77	3	702.90	25.31	57.7	2
TGLLSGLDIMEVNPSLGK					922.54	44.06	70.47	2
VFITDDFHDMMPK					532.61	35.32	44.71	3
ASNTAEVYFDGVR					714.90	25.60	38.81	2
MAAYSGVTDVIIGMPHR					606.67	33.74	54.49	3
LKPGFLK					401.77	15.45	33.76	2
VAGMDVELTVEER					724.41	29.01	53.57	2
DMELIYPFK					578.32	38.73	45.63	2
AVDSLVPIGR	513.82	26.53	50.89	2	513.81	26.33	45.4	2
MVGAPIVYR					503.30	23.69	24.64	2
FPLFTAVYK					543.31	50.02	62.04	2
VLTEIIASR	501.31	23.11	27.94	2	501.33	24.31	43.39	2
YNELLLGVGHPE(+21.98)YPFVEEY					1145.58	44.14	34.81	2
KLDEAVAE(+21.98)AHLGK					701.92	16.84	39.61	2
GNVGFVFTK	484.78	24.78	41.9	2				
SDIDEIVLVGGSTR					730.93	32.07	63.63	2

ELFESDLDR					562.29	25.31	40.13	2
AAVLWE(+21.98)LNKPF					655.37	39.25	24.44	2
LVGQGATAVLLDLPN(+.98)SDGETQAK	766.75	45.24	32.34	3				
EGN(+.98)DLYHEMIESGVINLK	688.03	49.98	36.78	3	688.03	40.19	30.64	3
GFIGPGVD(+21.98)VPAPDMSTGER	641.98	40.31	44.12	3	962.48	34.40	30.66	2
KHFVGYPTNSDFELK					594.67	23.87	53.12	3
AIDPEMFK	475.75	24.13	23.08	2	475.75	25.45	31.86	2
DSTEAAAITEHVVK					735.92	21.74	64.21	2
IQVLGSLVSLEM(+15.99)GK	745.43	44.71	35.42	2				
AVEHLDDLPGALSELSDL					947.52	45.95	30.74	2
LGTPALTSR	458.28	14.22	37.76	2	458.29	16.96	41.54	2
IGAEFLAR	438.77	22.07	43.16	2	438.77	23.80	40.98	2
MLSLDFLDDVR					662.37	43.62	46.59	2
FVSISD(+21.98)LLVPK					620.37	40.52	27.4	2
SSILLDVKPWDDETDMAK					688.37	36.01	40.55	3
ISLLLDPGSFVESDMFVEHR	764.41	59.50	45.12	3				
EQFLDGDGWTER					726.86	29.02	38.13	2
IAAQTLLGTAK	543.84	21.84	40.47	2	543.85	23.57	52.83	2
MPLIGLGTWK					558.32	36.58	43.72	2
FGIHPVAGR	477.28	13.33	30.32	2	477.29	16.11	35.08	2
ITEIYE(+21.98)GTSEIQR					780.93	23.15	26.19	2
EPPFPLSTR	522.29	24.84	43.41	2	522.30	25.61	33.82	2
NSNVGLIQLNR	614.35	23.76	46.57	2	614.37	25.12	47.25	2
IGGGQGIAVIIE(+21.98)NTA					717.91	39.36	36.45	2
THTQDAVPLTLGQEFSGYVQQVK	849.46	45.40	71.47	3	849.48	38.12	52.45	3
AFIVLNPEFSS(+27.99)R	704.38	41.80	27.69	2				
ANLEEVLPK	506.80	24.26	46.6	2	506.81	25.50	46.62	2
EQAGGDATE(+21.98)NFEDVGHSTDAR					743.33	19.27	35.75	3
PIDGDYFSYTR	667.32	38.88	30.47	2				
NIPGITLLNVSK	634.90	40.74	26.17	2	634.89	34.79	40.97	2
VAAPDWTFLHC(+57.02)LPR	561.64	43.94	28.31	3	561.64	36.30	30.3	3
VGWEQ(+.98)LLTTIAR					694.41	44.40	30.63	2
DLEDLQILIK	600.35	49.66	44.69	2				
FYGPEGPYGVFAGR	758.88	37.88	65.63	2	758.90	33.52	67.75	2
LRDDVELR					508.30	14.70	29.61	2
ALAQEILPQAPIAVR	530.67	41.11	47.5	3	795.51	35.31	36.84	2

LLPLELEK	477.81	30.37	25.12	2				
TPVGFIGVGNMGNPMAK					845.44	34.18	63.7	2
GPGYGILSIR	516.80	31.62	31.76	2	516.81	29.16	37.65	2
FPGDSVVTGR	517.78	19.89	32.09	2	517.79	21.44	49.63	2
QIFLGGVDR	502.79	23.25	27.76	2	502.80	24.84	33.25	2
AVASAAAALVLK	542.85	29.89	42.99	2				
ALTSGLALLQSR	615.37	35.56	45.47	2	615.37	31.88	62.3	2
DLEADITGDTSGHFR					817.42	28.04	45.46	2
MPTPPNYK					474.25	16.94	34.5	2
ADMDFLLNELER	733.37	53.69	38.27	2	733.40	42.79	39.5	2
AIFVTVDTPYLGNR	783.43	41.76	37.85	2	783.46	35.71	52.53	2
MPINEPAPGK					527.31	16.05	48.29	2
ARPEYMLPVHFYGR					579.31	30.25	54.16	3
IGGGQGIAVIIENTA	706.91	47.43	32.59	2	706.92	39.32	40.91	2
HMEDWIPHLK					435.91	27.40	32.16	3
N(+.98)SIQDIIGALFK					660.38	50.21	33.21	2
SEFPWEVPK					559.80	32.18	29.54	2
VTIEYYSQLK	622.35	26.49	52.62	2	622.36	26.43	50.42	2
Q(-17.03)VVEAVPVLLSIPGLAAK	894.05	66.95	42.84	2	894.06	49.76	42.46	2
SVNELSVPR					500.82	19.02	35.06	2
IPAFLNVVDIAGLVK					784.97	47.98	64.88	2
RFTMELAK	498.28	14.50	32.94	2	498.30	18.65	32.77	2
LDYWLAYETIMK					773.42	44.47	48.04	2
TLTLVDTGIGMTK	675.39	34.57	46.74	2				
VNQIGSVTESLQAC(+57.02)K					817.45	25.05	37.14	2
HIDTAPSFK					508.30	14.32	51.3	2
LGLPALPGPR	495.82	33.92	25.43	2	495.82	30.38	41.51	2
GFLDTM(+15.99)LIEMAK	692.86	46.56	42.39	2				
HLQIIYEINQK	466.94	23.31	62.81	3	699.93	25.09	60.36	2
VPSYQALLR	523.82	28.67	33.42	2	523.82	27.07	43.15	2
AFMTLVDE(+21.98)LIAEQK					815.45	46.26	38.77	2
NIMSVLAADNLLAGLR					835.98	46.92	62.89	2
AVNTLNE(+37.96)ALEFAK	486.59	36.73	33.15	3				
EGDMMMGEQVAR					677.30	21.15	67.4	2
VVIGLFGK	416.77	31.90	34.12	2	416.77	30.03	38.33	2
VTMWVFEEDIGGR					769.91	40.05	61.93	2

SAIYPTSAEHVGAALK	538.97	20.37	41.96	3	538.98	22.72	30.66	3
DPDPEFPTVK					572.80	24.07	34.22	2
SVVVANYEESIK					669.40	23.48	36.9	2
VEDFTELVER					618.83	30.35	44.23	2
YLGGTDDPVK					532.79	17.11	48.99	2
GTAVVSGEFK					497.80	16.93	45.47	2
AGTQIENIDEDFR					754.37	27.37	49.98	2
GNPE(+21.98)SSFSDENLR					737.33	20.34	27.94	2
QTAYEFAK					479.27	16.04	38.11	2
ILLMDLNKEDPTVLELK					662.07	39.48	45.9	3
EFFN(+.98)GKEPSR					606.31	16.61	29.77	2
Q(-17.03)HGIPVPVTPK	578.34	22.63	29.31	2	578.36	24.03	38.2	2
TLSSISTSTDAASVVHSTDLVVEAIVENLQM(+15.99)K					841.21	49.47	30.63	4
KDFSSVFQFLR					687.37	37.69	57.27	2
EIAEAYLGK					497.30	20.81	31.8	2
WWITGILDPR					628.85	44.45	26.62	2
TFC(+57.02)QLILDPIFK					747.93	43.85	43.12	2
IGPALSC(+57.02)GNTVVVK	707.90	23.80	27.96	2				
Q(-17.03)AGPASVPLK	475.77	22.85	42.46	2				
INFDDNAEFR					620.80	25.61	50.55	2
FELDTSER					498.75	19.39	32.92	2
NQPPSPEFVAR					621.37	19.53	26.82	2
SAFGAPLTK	446.26	16.22	40.23	2	446.27	19.36	43.78	2
YQVQTQENYEAF					760.39	28.88	39.69	2
NPGLQNLLLDDFFK	817.44	61.69	35.55	2				
IAQFLSD(+37.95)IPETVPLSAVNR	527.79	52.57	23.48	4				
LVTDFMAK	462.76	24.24	37.57	2	462.77	25.20	37.01	2
QGIQFYTQLK	613.35	29.44	42.08	2	613.36	28.39	40.66	2
FTD(+21.98)EEVDELYR					719.34	27.73	36.79	2
KVPQVSTPTLVEVSR	547.33	24.29	58.47	3	547.34	25.04	57.25	3
LAQGLTHLGK					519.33	15.68	41.42	2
AQFGQPE(+21.98)ILIGTIPGAGGTQR	711.72	44.94	32.33	3	711.74	37.44	30.9	3
DLLVTGAYEITDQSGGAGGLR	698.38	46.16	30.45	3				
DFPDFNPSQD(+21.98)AETLYNAMK					1113.02	45.91	30.53	2
NAPAIIFIDELDAIAPK	604.36	64.26	40.74	3	906.05	48.74	55.94	2
HHATNVGVMFR					423.56	14.62	34.22	3

KYTLPPGVDPTLVSSSLSPEGTLTVEAPLPK	799.21	52.91	34.68	4	1065.31	41.70	35.24	3
M(+15.99)IAEAIPELK	565.82	26.38	35.6	2				
ASGVSDGAGAVIIASEDAVK					909.03	31.78	51.97	2
IGFFQGDIR	526.79	31.53	46.58	2	526.81	30.28	54.95	2
ISIEM(+15.99)HGTLEDQLNHLR	506.27	29.88	29.7	4				
ELPDPQESIQR					656.35	21.27	47.44	2
LADM(+15.99)ALALESAR	638.85	23.29	43.44	2	638.88	24.15	41.08	2
LFATEATSDWLNAN(+21.98)					787.89	40.08	29.57	2
YDSLETLK					484.79	19.74	31.66	2
LLAAEAIDDIPFGITSNSDVFSK	808.44	61.32	26.41	3				
PTWGNHTPIFR					442.57	22.74	36	3
FFDAYHDLM(+15.99)K	434.88	24.66	24.08	3				
VIC(+57.02)ILSHPIK					590.36	23.33	26.82	2
VLITDTWISMGQEEEK					940.00	38.14	59.94	2
IGGIFAFK	426.76	33.05	44.15	2	426.76	30.99	37	2
VSSLPQVTVK	529.33	18.81	26.91	2	529.34	21.58	32.24	2
FN(+.98)GNTLDNDIMLIK					804.94	39.03	33.95	2
GGIVGMTLPIAR	592.86	38.48	51.98	2	592.86	33.44	54.25	2
PIGLFMYYENNPEK					857.95	37.15	50.13	2
VGINYQPPTVVPGGDLAK	609.02	37.17	26.52	3				
DGWLDFK					440.73	34.51	30.87	2
SLQSVAEER					509.78	15.21	31.33	2
QAFQIGSPWR					595.33	29.79	52.34	2
KGFIGPGVDVPAPDM(+15.99)STGER	682.69	26.71	38.67	3				
DVLFPGYTHLQR	482.60	30.48	34.11	3	723.42	28.90	49.61	2
IAQFLSH(sub D)IPETVPLSAVNR					698.07	42.12	32.41	3
PNIPWLFLTDPK					720.90	44.41	40.38	2
FNSAN(+.98)DDNVTQVR					740.86	17.40	55.84	2
IPN(+.98)GVN(+.98)GVEDR					586.30	18.06	39.36	2
RLDVATAAMAK					573.85	17.07	48.65	2
GGFTIFWADDGLDTGDLLLQK					1141.63	48.63	66.7	2
TMLGK					549.30	53.01	24.07	1
ELGTHKPLPGITVGDIGPK	483.04	26.82	23.54	4	643.73	26.62	62.47	3
VLSEHGFGLITTDIR	553.32	34.49	46.69	3	553.33	31.74	44.37	3
PAGDFNPDADAK					609.29	15.34	54.02	2
FILEEIKK	510.32	21.37	30.43	2	510.34	23.55	33.67	2

TYFPHFDLSH	421.88	32.76	33.47	3				
SVDDYQEC(+56.03)YLAMVPSHAVVAR	803.75	37.96	27.1	3				
KPVIAAVN(+.98)GY	516.81	20.44	30.74	2	516.81	24.01	32.41	2
TTPDVIFVFGFR					699.90	44.20	38.7	2
ALDLFSD(+21.98)NAPPPELLEIINEDVAK	882.47	66.23	27.95	3				
ADLTEYLSR	534.28	29.04	48.49	2	534.29	27.59	50.38	2
GITWGEETLMEYLENPKK					713.38	42.82	42.44	3
G(+27.99)PLLVQDVVFTDEMAHFDR	739.71	65.04	24.92	3				
AVAHITGGGLLENIPR	540.00	30.48	38.71	3				
GWGFLDK					411.73	29.72	31.23	2
GLDLQGFLNDLEK	731.41	59.02	51.92	2	731.42	45.83	62.84	2
DFLAGGIAAAISK	617.36	45.19	44.6	2	617.37	37.82	63.45	2
NVGLDIEAEVPAVK					727.45	33.51	40.96	2
FTASAGIQVVGDDLTVTNPK	678.38	40.41	53.49	3				
LKQEYFVVAATLQDVIR					665.06	40.78	61.53	3
IEVEKPFAIAK	415.59	21.50	46.08	3	622.89	23.48	49.57	2
C(+39.99)LGLTEAQTR	566.28	34.58	24.57	2	566.30	31.09	31.6	2
LTYVDFLVYDVLDM(+15.99)HR	672.35	62.65	35.09	3	672.37	47.74	25.44	3
NDGSLMFQQVPMVEIDGMK					1070.05	42.41	55.32	2
YEGFFGLYR	576.30	40.07	48.17	2	576.31	35.67	53.96	2
IANLLKPDK					506.34	16.28	23.14	2
AMGIMNSFVN(+.98)DIFER					872.95	46.87	38.77	2
DGLAFNALIHR	409.57	33.94	41.22	3	613.85	31.28	50.74	2
Q(-17.03)IDDVLSVASVR					642.87	41.15	25.91	2
IAVIGAGVSGLTSIK	693.42	38.08	34.29	2	693.43	33.33	56.15	2
VIATFTC(+57.02)SGEK	606.82	15.48	30.92	2	606.83	18.64	34.75	2
LSLLEELTLAENQLLK	609.71	66.42	33.02	3				
LALDVEIATYR	632.37	38.08	51.16	2	632.38	33.70	51.2	2
LALNIADDMLK	608.85	41.91	28.76	2	608.86	36.01	52.49	2
ELAPYDENWFYTR					852.43	37.06	34.84	2
IDIVENR					429.75	16.06	34.14	2
ALEAFETSK					498.27	18.18	39.76	2
ELGLETYK					476.78	21.17	30.72	2
DGLLFGPYESQEK					741.91	32.91	39.83	2
NYELLC(+57.02)GDNTR					677.85	22.22	26.83	2
TGDALLIR	429.76	18.25	24.78	2				

LLPALASVPVLPSE(+21.98)S					757.95	44.81	27.79	2
DC(+57.02)PVSSFNEWDPLEEVIVGR	783.40	64.78	44.23	3	1174.59	48.43	46.67	2
TLQPEPDYGAAVAFFEER	680.68	51.75	51.08	3	680.70	41.92	45.03	3
ANAFVAELK	481.78	20.93	45.46	2	481.79	23.74	48.9	2
EGYLQIGVNTR	625.35	25.87	50.7	2	625.36	26.01	47.42	2
SSGNPLVYLDVGADGQPLGR	672.36	46.88	36.89	3				
ILLINTK					407.78	22.79	25.2	2
FGILTEK	404.24	20.03	30.48	2	404.25	23.03	28.98	2
APLAIAAAVE(+21.98)QALK					694.42	42.18	42.91	2
SQIFSTASDNQPTVTIK					919.01	27.38	60.2	2
NPPGFAFVEFEDPR					811.42	38.87	46.03	2
MTSSDLLNALK					596.85	33.58	54.03	2
YPDPLIK					423.26	23.20	24.4	2
DVC(+57.02)TELLPLIKPQGR	580.33	42.51	33.37	3	580.35	36.37	31.29	3
EMFPIIGQ	467.77	33.99	24.17	2				
ITVTSEVPFSK	604.34	27.06	37.87	2				
DVQNTFYDIVAEQGAMEHAQAVDYVK	981.17	53.55	24.21	3				
AVTFQELDTR					590.35	24.29	49.55	2
LMSQELPDDWDK					738.88	28.95	29.64	2
EGTVTAGNASGVSH(sub D)GAGAVIIASEDAVK					856.81	34.47	28.53	3
TLTIVDTGIGMTK	675.39	34.57	46.74	2				
AVFEWHITK					565.83	26.70	51.01	2
FFEEVNDAAK					585.31	21.54	48.44	2
DDAMLLK					403.22	20.31	39.64	2
DSDHGDVLWNTAVVVASSGAVLGK					799.78	44.89	52.58	3
ILESGPFVSC(+57.02)VK					668.38	27.77	36.24	2
EFLDAGEQVVSSPADVAEK					996.05	31.47	47.59	2
YLLGTSLAR	497.30	25.19	24.87	2	497.30	25.23	30.36	2
ELIEIISGAAALD	657.88	58.72	27.97	2	657.89	44.95	56.64	2
LSLDELHR					491.79	21.32	42.72	2
SSMSVTSLEAELQAR					804.93	34.86	64.09	2
VAFITGGGSGIGFR					669.87	31.82	52.1	2
LGEYGFQN(+.98)ALIVR	740.91	40.86	50.82	2	740.93	34.94	60.16	2
IIQLLDDYPK	609.36	35.59	48.23	2	609.37	32.36	45.28	2
YNLGLDLR	482.28	30.73	42.33	2	482.29	29.32	41.68	2
GYEN(+.98)GNFVGPTIISNVKPN					1011.04	34.15	24.99	2

GLPLTYVITC(+57.02)QYDVLR	637.70	55.08	40.08	3	956.01	43.26	42.59	2
SFPFVSK	406.23	24.94	26.78	2	406.24	25.68	29.29	2
GIHETTFNSIMK	459.92	19.65	33.27	3				
ALTEELSALK	537.82	27.68	43.66	2	537.83	27.52	51.76	2
QATVGDINTERPGMLDFK	664.68	31.33	47.39	3	664.70	29.16	31.28	3
KFDLGQDVIDFTGHALALYR					760.42	45.22	62.11	3
ALQASALAAWGGK(+21.98)					633.35	28.43	26.8	2
MLKPAFIFDGR					432.25	30.13	42.4	3
SDYLNTFEFMDK	755.36	44.99	65.96	2	755.36	37.73	63.57	2
AYLDLLPFIR					610.87	45.55	39.37	2
SC(+57.02)M(+15.99)PYTDAVLHEIQR	612.63	30.16	28.57	3				
NDGSLM(+15.99)FQQVPMVEIDGMK					1078.05	39.09	27.01	2
AGLVDDFEK					497.26	24.01	35.91	2
LGDPAEYAHLVQAIIEN(+.98)SFLN(+.98)GEVIR	718.40	66.12	35.03	4	957.54	48.93	40.17	3
VAT(+27.99)VSLPR	435.77	17.63	28.88	2				
LIIAGTSC(+57.02)YSR	620.83	20.78	25.66	2	620.84	21.64	37.8	2
LSPEELLLR	535.33	38.83	37.38	2	535.34	34.58	38.62	2
FHIAEFPTLK					601.86	30.65	35.39	2
FVNVVPTFGK	554.32	33.36	30.35	2				
IQIWDTAGQER					658.86	26.47	55.06	2
ILTPLVSLDTPGK	677.42	46.05	35.76	2	677.43	34.44	49.7	2
WLLDFASK					490.28	36.80	28.37	2
GLLLYGPPGTGK	586.85	29.70	53.72	2	586.85	27.72	50.38	2
AEEELALPGGFLSK	730.90	42.77	37.3	2	730.92	36.54	53.09	2
QQDQTC(+57.02)IPTPVK					707.90	19.31	45.68	2
LDNLVAILDINR	684.91	50.81	36.33	2	684.93	41.43	50.13	2
VHPISTMIK					513.30	15.87	27.02	2
LGGGL	416.26	17.34	26.05	1				
IEYDTFGELK					607.84	28.48	43.24	2
FIQENIFGIC(+57.02)PH					737.89	36.39	29.55	2
FAEVENVVDTILFLLSDR					694.06	51.50	62.92	3
VEYVPLVEEALR					708.91	38.82	40.58	2
SPPFFEDLTLDLQPPK	615.34	57.92	32.48	3	922.52	45.48	66.03	2
GLLNLEHQR					540.32	18.95	39.92	2
EAFSLFDK	478.75	31.64	37.3	2	478.76	30.40	31.77	2
LGGGI	416.26	17.34	26.05	1				

DGSIDLVINLPNNNTK(+21.98)					874.98	35.93	34.02	2
HGGPLPYYR					530.30	16.77	48.94	2
IWPVLETDK					550.83	30.22	41.25	2
YVSSLTEEISK	628.34	21.72	51.89	2	628.35	23.45	48.35	2
SLGM(+15.99)IFEK	470.75	22.46	25.42	2	470.76	24.72	31.48	2
GPPLVHAVLSSGAR					680.89	21.92	70.59	2
TVVSGLVQFVPK					637.39	35.30	34.19	2
QGEIFLLPAGVPHSPQR	616.02	35.60	56.69	3	616.04	32.45	49.03	3
SAATLITHPF	529.31	29.91	31.6	2				
VVNVSSFVSVNSLK	739.92	38.73	50.55	2				
PAVTQHAPYFK	420.24	14.09	33.76	3	420.24	17.48	39.79	3
MPVVNFGPGPAK					607.35	27.43	43.03	2
FPGQLNADLR	565.82	25.53	28.43	2	565.82	25.62	42.62	2
IYDVEQTR					512.29	15.41	32.77	2
STPAITLE(+21.98)NPDIK					710.92	26.75	32.69	2
KLEGDSTDLNDQIAELQAQIAELK	881.47	57.10	54.26	3	881.51	44.59	46.78	3
SMTLEIR	425.24	18.81	28.47	2	425.24	21.84	33.27	2
KIPVVFR					429.79	29.18	31.49	2
VIAEGDLGIIEK					628.91	28.70	23.98	2
LDYILGLK	467.80	34.86	29.49	2	467.81	32.24	32.25	2
MSATFIGNSTAIQELFK					929.50	42.87	66.71	2
GFVDDIIQPSSTR	717.88	35.08	49.48	2				
GNFNYIEFTR					630.83	30.72	61.37	2
FFESFGDLSTAH(sub D)AVMNNPK					1056.51	39.21	34.38	2
LTNTPAVISAF					567.34	36.99	28.24	2
GFIGPGVDVPAPDM(+15.99)STGER	640.00	34.47	57.21	3	959.52	30.43	27.66	2
VIGM(+15.99)HYFSPVDK	470.25	18.54	30.66	3				
NLSLSQQLK	515.82	17.99	25.2	2				
LVHVIGALR					489.32	19.97	28.01	2
ENVLIGEGAGFK					617.37	26.51	34.9	2
EAAIVDPVQPQK					647.89	20.56	39.35	2
SMGPVGSPLSR	544.30	19.06	30.15	2	544.31	21.52	35.77	2
ELSFFAK	421.24	27.27	37.67	2	421.25	27.82	32.43	2
PIIWGLASQGEK					649.87	30.52	40.78	2
FSLSTLR	412.25	25.33	29.54	2	412.25	25.84	30.31	2
AFMTLVD(+21.98)ELIAEQK	543.97	58.85	34.79	3	815.45	46.19	42.06	2

QLETIDQLHLEYAK	567.66	32.09	47.64	3				
LAVATFAGIENK	617.36	30.57	54.48	2	617.38	29.19	67.6	2
DDEVDVDGTVEEDLGK					867.91	28.99	50.74	2
AILYNYR	456.76	17.63	28.25	2	456.77	20.41	27.42	2
GQIGAPMPGK	478.26	13.19	43.13	2				
KDEYEFFTNLDQR	568.96	33.73	52.58	3				
TDDIINSSGYR					620.83	19.73	27.55	2
GEMMDLQHGSLFLR	545.29	37.21	38.71	3				
VVLAYEPVWAIGTGK					801.97	38.53	62.1	2
FSLDQLITHVLPLE(+21.98)K					888.01	46.28	35.82	2
GAEVHVVPWN(+.98)HD(+14.02)FTK	438.48	18.69	26.94	4				
VDLFYLHAPDHGTPVEETLR	578.06	38.20	64.95	4	770.41	33.57	68.75	3
VINYELIK	496.31	24.54	25.76	2	496.32	25.73	31.71	2
IINEPTAAAIAYGLDR	844.48	39.66	34.5	2				
WSSC(+57.02)NIFSTQDHAAAAIAK					693.37	28.57	37.07	3
QSKPVTTPEEIAQVATISAN(+.98)GDK	795.77	32.32	37.77	3				
N(+.98)SLFPGTWYLER					742.40	44.34	34.43	2
AHGGYSVFAGVGER	469.58	18.67	42.22	3	469.59	21.98	40.92	3
IINEPTAAAIAYGLDK	830.48	38.47	51.98	2	830.49	33.63	49.75	2
APDTAALDELGLSK					700.92	31.27	52.07	2
LTQAQTFDYSEIPNFPESTVPGHAGR	954.81	41.61	44.59	3	954.84	35.08	67.37	3
SYHEEFNPPKEPMKDDITGEPLIR					711.40	27.64	44.81	4
A(+42.01)DQLTE(+21.98)EQIAEFK					793.40	35.89	36.92	2
MIAEAIPELK	557.82	30.91	42.66	2	557.84	29.44	44.02	2
NILLSIGELPK	598.88	43.21	38.63	2	598.89	37.48	40.17	2
YITPDELANLYK	720.40	42.85	41.22	2	720.41	36.24	45.89	2
YANALLAIK	488.81	27.19	40.14	2				
TPIGSFLGSLSSLPATK					838.47	50.19	95.03	2
ELNLPFGGMK					553.32	33.54	41.51	2
SPFTVGVAAPLDLSR					765.45	37.12	39.52	2
SLMDQTGEMR					584.29	19.79	34.33	2
NSTFSELFK	536.79	31.20	32.68	2				
GSSYSGLLER					534.79	21.71	37.57	2
VLMLDEK					424.26	20.60	24.44	2
DIFQAIFEK	555.81	51.65	37.5	2				
TGAAPIIDVVR					556.35	27.46	37.16	2

APDEEDHVLVLHK					501.29	17.96	31.79	3
FFESFGDLSTADAVM(+15.99)NNPK	702.68	42.70	63.11	3	1053.53	35.49	53.21	2
LGVSGAVLLER	557.35	30.55	50.39	2				
DVTGAEALLER					587.35	28.78	44.13	2
LTSLPIVAK	471.31	24.49	33.17	2	471.32	24.53	32.25	2
SLNLDPSK					437.27	16.60	28.66	2
DQLIQNLLK	542.84	38.66	31.84	2	542.85	34.14	34.27	2
Q(-17.03)TMQVDEHPRPQTTMEQLNK	798.74	22.72	32.85	3				
DFNVGDYIQAVLDR	812.92	65.22	62.12	2	812.94	48.72	76.43	2
TNVLYELAQYASEPTEHEQLR	831.09	49.58	35.55	3				
EGALDLSSLGAIDTTQLFSLPK	759.42	65.03	61.37	3				
VFDKDGN(+.98)GYISAAELR	585.98	29.56	41.67	3				
EVINNPSYK					532.31	14.45	34.07	2
PPFDIQIIDDK	650.86	48.38	36.39	2				
VLGTSVESIMATEDR	804.41	34.89	61.45	2	804.43	31.91	71.53	2
EVLAELEALEGR					664.90	37.01	51.75	2
TLQPE(+21.98)PDYGAAVAFFEER					688.02	41.96	28.07	3
FAHTNVE(+21.98)SLVNK					690.88	20.05	40.57	2
TLTSFER					427.26	16.74	24.34	2
Q(-17.03)VAEQFLNIR	600.84	47.79	38.33	2				
GFQQILAGEYDHLPEQAFY	742.71	56.29	24.18	3				
LDQLIYIPLPDEK	778.95	49.93	39.49	2	778.97	40.71	48.66	2
LSSVD(+21.98)PSHAAVVNR					737.40	16.97	29.19	2
LLDHLFANVIPK					460.61	36.25	51.85	3
FAVESIEDALK	611.34	41.37	27.25	2				
FAPPQPAEPWTFVK	807.93	42.70	39.57	2	807.96	36.65	42.54	2
NFLEM(+15.99)HQL	524.26	24.24	23.63	2				
LPELLDFR	501.80	41.75	34.03	2				
AGDTVGEGDLLVELE					758.91	41.65	37.38	2
VSPEEFTEIMNQR	527.26	39.17	52.17	3	790.41	33.96	56.04	2
VPAINVH(sub N)DSVTK					640.37	22.51	34.43	2
SYELPD(+21.98)GQVITIGNER	604.98	40.47	42.33	3	906.97	34.58	34.7	2
VTVVLGASQDIIPQLK	561.02	52.19	39.63	3	841.04	38.15	56.74	2
L(sub T)ILDELVMR					551.35	36.13	24.86	2
LAELMEQHQEELATIEALDAGAVYTLALK	1057.56	63.03	28.36	3	1057.62	47.76	55.92	3
AAFEYIITAK	563.83	31.22	44.9	2	563.84	29.85	50.72	2

VELKPGETLNVNFHLR	467.27	31.20	47	4				
ESQVYQAFK	550.29	16.39	48.21	2	550.30	19.42	46.71	2
EDIFYTSK					501.77	20.47	27.05	2
GEFQLLLDALDK	681.39	56.84	42.77	2	681.40	45.36	51.66	2
DPLGFMTSLQK	618.83	44.00	37.22	2				
PC(+57.02)ELMHLPEK					627.34	31.67	24.78	2
FQFFQR	436.73	26.48	30.05	2				
TFAVQGFGNVGLHSMR					574.31	30.43	50.02	3
VGLPPLEK	426.77	20.65	35.2	2	426.78	23.04	30.35	2
EAILELITSR	572.85	42.80	42.74	2	572.86	37.03	48.22	2
TVLMNPNIASVQTNEVGLK					1014.60	33.30	61.87	2
FWSVDDTQVHTEYSSLR					690.69	30.61	28.92	3
YIQELWR					504.29	27.31	26.53	2
HALIIYDDLSK	644.36	25.19	56.59	2				
LITSVAE(+21.98)VVNNDPVVGSK					932.03	33.05	29.99	2
HWPFYQK					503.26	20.83	52.16	2
QFYPDLIR	526.30	32.06	38.33	2				
FDYQDDQFQELLR	572.96	38.61	48.9	3	572.97	33.69	46.62	3
FAME(+21.98)PDDFDADALR					817.90	35.05	32.75	2
GMSLNLEPDNVGVVVFGN(+.98)DK	702.36	54.41	28.04	3				
VVYEAGVFSVSAGDGK	792.92	32.51	67.69	2	792.93	29.81	69.44	2
DSTLIM(+15.99)QLLR	603.35	46.73	26.25	2				
TLLEWLTHSGK					642.87	35.13	27.14	2
LVVSTQTALA	501.81	27.85	42.53	2	501.82	27.08	47.34	2
YFSMTEVDK	560.27	22.04	46.07	2	560.30	23.51	46	2
VMDRPGNYVEPTIVTGLDHDASIVHTETFAPILYVFK	829.82	59.65	28.93	5				
SETSGSFE(+37.96)DALLAIVK	568.96	57.05	23.8	3				
YGINTTDIFQTVDLWEGK					1050.58	47.19	30.9	2
GLC(+57.02)GAIHSSVAK					600.35	14.46	36.22	2
EFTPVLQAH(sub D)FQK					722.88	31.29	27.77	2
LNDGHFIPVLGFGT(-18.01)FAPR	647.36	51.05	38.39	3	647.36	40.91	39.96	3
KEDIVMYLLALK					718.43	41.99	50.25	2
VLILGSGGLSIGQAGEFDYS(+27.99)GSQAVK	861.13	51.97	34.32	3				
ATIAGGGVIPHIHK					685.92	19.61	50.89	2
LGEHNIDVLEGNEQFINAAK	737.73	36.33	68.91	3	737.74	31.88	75.67	3
TFAVQGFGNVGLH	673.86	38.43	44.99	2	673.88	33.70	46.98	2

GFYIYQEGVK	602.32	26.44	45.26	2	602.33	26.69	53.55	2
ISEAEAVHPVK					590.34	13.83	47.34	2
LMFNDFLLASGDTQTGIYK	712.04	55.85	54.84	3	1067.58	44.22	57.26	2
EILVGDVGQTVDDPYATFVK	722.73	49.81	67.33	3	1083.58	40.06	63.08	2
TSESGELHGLTTEDK					802.40	16.18	64.49	2
PIEEVLK	414.26	15.65	24.11	2	414.28	18.54	28.19	2
DKPDNFQLFQSPH	524.93	29.23	33.01	3				
FEELNMDLFR	657.32	46.09	55.05	2	657.34	38.69	52.05	2
AEYLHTWGGLLPVISK					595.35	37.85	61.18	3
FDGILGMAYPR	620.32	41.41	41.67	2	620.34	35.76	51.77	2
INAWNSPTLPIYEPGLK					957.06	38.76	55.89	2
GLGTD(+21.98)DDTLIR					599.31	23.52	25.94	2
IPAQSVILLHAC(+57.02)	661.38	33.46	26.95	2	661.40	31.11	28.99	2
IIFDDFR					463.26	31.31	27.04	2
ESVLEEGTIAFK					661.90	30.86	42.5	2
IPLSDGNSIPIIGLGTYSEPK	724.41	51.09	54.37	3	724.43	41.18	52.77	3
SASVQGFFLNHYLPEFR					671.35	40.64	56.82	3
AVFWIEFVM(+15.99)R					657.35	42.90	36.94	2
IAALQSFADQLIAGGHYAK					658.70	38.94	50.2	3
Q(-17.03)HLQIQSTQSSLNEVIQNLAATK	845.46	55.84	34.08	3	845.48	43.10	37.65	3
MIASALAQIPQK					635.88	26.96	60.73	2
YSTDVSVDEVK					621.32	19.71	57.55	2
WDAWNELK					531.28	30.37	44.07	2
GEYLPLLQGK	559.33	32.90	43.72	2	559.34	31.03	46.31	2
LASGIPIELLGNIK	719.45	51.04	27.55	2	719.46	40.86	47.7	2
FEE(+21.98)LNMDLFR					668.33	38.74	32.49	2
FLFVDADQIVR	661.86	45.62	40.68	2				
Q(-17.03)VHLPALYR					540.32	30.59	27.09	2
LN(+.98)SFLGDDIFLR	705.89	54.87	35.47	2	705.90	43.59	44.84	2
LAVNMVPFPR					572.33	32.86	51.05	2
VYGDIISTPAK	582.32	21.10	40.55	2				
LLASGDTQTGIYK	683.87	19.08	24.7	2				
TADTTPFHIQAEVTMK	597.31	29.51	51.47	3	597.33	28.39	36.29	3
VGNPAEDFGTFFSAVIDAK	662.35	64.47	38.4	3	993.03	48.59	74.14	2
HSMNPFCE(+57.02)IAVEEAVR	630.32	36.82	42.3	3				
SLFHYR	411.73	13.39	30.7	2	411.73	15.64	29.7	2

LGPSHILIISGR					421.60	25.58	42.92	3
EAFQLFDR	513.27	31.94	44.93	2	513.28	30.52	42.52	2
DMITFLDK	491.76	38.38	25.88	2	491.76	33.94	30.22	2
LVAIVDPHIK					552.87	23.71	36.64	2
YDC(+57.02)GEEILITVLSAMTEEAAVAIK					876.15	51.55	49.59	3
VLHGSTVASVYK	630.87	12.47	45.66	2	420.92	15.35	43.96	3
YYTVFDR	482.25	22.25	31.74	2	482.25	24.06	41.99	2
EGADLLMVKPGTPYLDIVR					696.40	39.17	51.87	3
ASTVLSVGGIR	530.32	22.36	26.61	2				
LLYEC(+57.02)NPMAYVIEK					871.97	38.31	49.4	2
EWVNPNLPFLLEDPVLSAIAK					1183.20	49.34	51.66	2
FATPLTR	403.24	17.05	32.49	2	403.25	20.00	31.26	2
AILNYIATK(+27.99)	517.81	28.24	25.89	2				
IFNTWLGDPSK					639.35	31.82	55.82	2
IISYLVDLDMVLK					761.46	46.46	42.02	2
M(+15.99)NLGVGAYR	498.76	14.20	27.52	2	498.77	17.46	24.01	2
YLPDMLLLEEC(+57.02)GLLR	612.34	60.50	40.11	3	918.02	46.74	49.06	2
LVEEGVVSPGDLDLVMSDGLGLR					790.79	46.64	57.52	3
ILM(+15.99)VGLDAAGK	552.32	24.15	34.97	2				
INEDIGHGDLSELPELHALTAGLK	636.36	46.58	40.54	4				
DIINEQFLLQR	694.90	43.93	48.27	2	694.91	36.70	60.35	2
SILGMTPGFGDK					611.83	31.85	34.25	2
LITLEEEMTK					603.86	27.28	36.38	2
EFEPLLNWMK					653.86	42.54	48.8	2
RDPFVGEHTEEILK					557.33	22.10	49.53	3
GVILNISSATGR	594.36	27.00	35.73	2				
LVILEGELER					585.88	30.19	34.03	2
VDILENQVMDVR	715.89	36.16	49.53	2	715.91	31.51	47.28	2
AALAGGTTMIMDF(+31.99)AIPHK	626.34	42.92	26.47	3				
VGGHAAE(+21.98)YGAEALER					776.41	17.93	29.93	2
DQLLLGPTYATPK	708.91	33.40	35.65	2	708.92	30.33	42.02	2
YDLGGLVM(+15.99)VK	555.80	34.79	25.7	2				
VLQPGAGATMAR					586.34	16.89	28.25	2
KVEDLFLTFAK					655.89	34.44	60.21	2
LNVLANVIR	506.33	33.09	23.84	2	506.33	30.64	29.99	2
ALGLSNFNSR	539.80	22.28	34.77	2	539.81	23.85	37.94	2

LHVDPENFK	549.80	15.46	57.95	2	549.81	19.12	46.82	2
M(+14.02)FLSFPTTK	543.28	47.23	22.63	2				
VLIQVGYEPLAPTVGR					856.53	36.16	55.12	2
HVLPPGDAPAGLR					650.39	20.01	39.5	2
LVQDVANNTNEEAGDGTTTATVLAR					854.15	25.72	40.8	3
LAAISEATR	466.28	13.04	37.93	2				
AMGNMNSFVNDIFER	872.93	57.56	27.59	2	872.95	44.91	38.66	2
VVAVDC(+57.02)GIK	480.78	13.77	26.8	2	480.78	16.37	29.7	2
AYADFYR	453.22	17.99	23.5	2				
LWYTVDK					462.77	24.15	35.3	2
VVDALGNAIDGK	586.33	22.08	60.47	2	586.34	23.39	58.33	2
FAIEAGFR	455.76	26.87	42.66	2	455.76	27.03	41.4	2
IVQAEGEAEAAR					622.34	13.41	59.1	2
LLPDGTTGFINQK	702.40	29.44	35.81	2	702.41	27.84	54.24	2
DILIVVGNEIIEAPMAWR					1020.10	48.82	65.66	2
WLAESVR					430.75	19.71	29.67	2
HLPSVPGLLK	530.84	25.74	37.03	2	530.84	25.76	37.97	2
MELLHPLGSDSPIAGFLK					642.38	41.90	48.42	3
SELSDLHAHK	568.79	38.70	41.73	2	568.81	34.19	42.57	2
EALID(+21.98)QGDEFLGR					742.90	32.14	32.5	2
GNLLLPGFK	479.80	35.29	32.27	2				
VSQDASPGSPLEK					657.87	14.85	47.35	2
SWNMSMLQTK					613.32	29.56	44.89	2
ENIQVFH(sub D)FELTPEDMK					989.02	42.52	33.11	2
DAEDVYGLK					505.26	20.75	40.08	2
TIVLMDSYGSDLLER					856.46	38.40	74.63	2
LQAIQFK	424.26	18.41	27.13	2	424.27	21.50	33.05	2
SHDIVLVAY	508.79	29.26	27.11	2				
AYNMVDIIHAVVDER	582.32	53.01	57.53	3	582.33	43.20	57.79	3
AADLLSGPR	450.26	15.57	48.37	2	450.27	18.36	43.27	2
QGGGNLVTMTTAPR	701.88	19.50	30.84	2	701.89	21.77	66.54	2
LDHHPEWFNVYNK					566.97	24.70	81.4	3
VGPAEVENALAEHPAVAESAVVSSPDPVR	966.52	40.62	55.82	3	966.53	34.31	57.36	3
FEVVEKPQS					531.80	17.60	33.84	2
IALLLKPDK					505.84	22.09	27.86	2
APNVPAAEPVPESPK					751.94	20.37	37.41	2

ALAENPGLVNK	563.33	14.62	48.74	2	563.35	17.51	43.34	2
DLAGSIIGK	437.26	25.88	30.22	2				
LTPEEIER					493.78	17.31	32.06	2
DKEVAFWNELLSR					803.96	39.40	59.49	2
IPVGPETLGR	519.81	20.65	41.59	2	519.82	22.68	41.53	2
LGANSLLDLVVFGR	737.43	62.30	54.08	2	737.42	47.31	68.48	2
KTQELLSQLPFK	477.97	32.40	22.91	3				
QAGPASVPLK	484.29	13.29	36.92	2	484.30	16.17	47.84	2
LVGVPAALDLIISGR	747.46	60.06	48.83	2	747.46	46.27	58.52	2
GLSQSALPYR	546.30	18.41	42.42	2	546.32	21.33	55.26	2
SVVVANYE(+21.98)ESIK					680.38	23.51	32.99	2
VPVPMPVIVLR					610.38	38.06	41.38	2
DAGHPLYPFNDPY	753.36	40.92	44.91	2	753.37	35.07	47.59	2
SAVLDELK					437.77	21.44	23.67	2
TFESLLDFSR	607.83	45.21	51.91	2	607.83	38.15	54.65	2
DSQGLC(+57.02)IPARPGEAGLLLTQVLR					822.15	43.26	50.17	3
GVNLPGTQVDLPGLSEQDVQDLR	817.43	51.41	22.4	3				
YAVFALGNK					491.78	25.83	45.99	2
SQETDC(+57.02)PYFSTPLLLGK	978.50	46.26	40.82	2	978.52	38.42	45.35	2
LIDLHSPSEIVK	450.94	26.17	38.93	3	450.95	26.25	30.9	3
YGLAAAVFTK	520.80	29.11	55.55	2	520.80	27.94	53.79	2
GHEITVLVPSTSSLLDHTQIPF	797.78	54.46	28.88	3				
TGNLHGQPVSF	578.80	18.33	25.06	2				
IPFVYSHY	513.27	29.80	30.16	2	513.28	29.23	26.18	2
FSLYFLAYEDK					698.37	41.65	42.31	2
DFLAGGVAAAISK	610.35	39.37	38.45	2	610.37	34.01	64.04	2
LGAN(+.98)SLLDLVVFGR	737.94	66.15	40.34	2	737.94	48.29	56.74	2
NNLFAFFDMAYQGFASGDGNK					772.04	48.86	65.74	3
VVIGMDVAASEFYR	778.91	43.00	71.76	2	778.93	36.44	64.85	2
VALNTLAR	429.27	15.38	35.12	2	429.29	18.68	38.26	2
DEDITEPPSILAAAEK					849.99	33.59	32.9	2
MLDLYSQISSVPIGYNHPALMK					826.45	39.91	51.71	3
IFSAAALTK					461.29	22.66	41.59	2
SINPDEAVAYGAAVQAAILS(+60.00)GDK	774.08	57.83	25.96	3				
ESAVFDAVMIC(+57.02)SGHHVYPNIPK					824.45	33.45	35.06	3
VIIFGLGK					423.78	31.36	34.11	2

Q(-17.03)VFFELN(+.98)GQLR	667.85	59.47	27.85	2				
AEM(+15.99)WLIR					467.76	25.58	25.33	2
MEIQEIQLK	566.32	28.13	35.1	2	566.33	28.33	41.3	2
M(+15.99)PC(+57.02)TEDYLSLILNR	580.96	51.82	25.95	3				
DSLLQDGEFTMDLR					820.44	39.53	49.66	2
AGLVFMPGTIQMK					696.89	36.47	53.7	2
M(+15.99)ILQQNYTSLR	691.88	23.11	35.94	2				
IEFEGQSVD(+21.98)FVDPN					809.41	38.13	26.12	2
FAAVGFHR	452.75	14.24	39.15	2	452.75	16.88	41.81	2
AAQLGFGGVYVQTDVGGAGLSR	708.38	43.80	94.06	3				
TLDGGLNVIQLETAVGAAIK	661.73	59.86	35.15	3				
KPMVLGHE(+21.98)ASGTVVK					787.96	14.81	30.3	2
FAAVGFHK	438.75	13.29	35.68	2	438.77	16.07	34.88	2
EEIFGPVQQIM(+15.99)K	717.89	30.74	43.1	2	717.90	28.89	42.12	2
ELGLYLNTSGQAK	697.40	27.61	25.55	2				
VVNVSSFVSVN(+.98)SLK	740.42	38.97	45.21	2	740.44	33.89	43.96	2
DPLTLFEEK					546.32	33.91	35.78	2
VDLLPLYVGR	572.85	43.66	23.46	2				
GGIYAVLLK	467.30	32.86	30.5	2				
GNIQPPNTEGNIGIR	790.43	22.28	52.66	2	790.44	23.41	49.1	2
MLAEDELR					488.76	19.78	33.41	2
IVFQEFR	469.77	25.34	31.26	2				
SGLAMVVN(+.98)GSAEPSAQLLVSSIGVVGTAEENR					1048.61	46.59	46.05	3
GILLYGPPGTGK	586.85	29.70	53.72	2	586.85	27.72	50.38	2
KHTLSYVDIK	401.90	12.13	23.93	3	401.92	15.21	44	3
FLFPEGVK	468.77	30.39	30.46	2	468.78	29.62	36.65	2
LEVELGN(+15.99)MQGLVEDFK	918.97	42.72	41.26	2				
EFDALLINPK	580.33	36.28	31.35	2				
KISSDLDGHPVPK					464.96	13.92	24.54	3
DGANIVIAAK					486.31	19.56	50.74	2
HVTVIGGGLMGAGIAQVAAATGH					696.72	37.48	38.81	3
PFSPMDLLNK					581.32	36.10	38.85	2
MLLLQDLSSYK	655.87	51.64	29.43	2				
TIAM(+15.99)DGTEGLVR					639.86	20.23	31.09	2
V(+27.99)VAGVANALAHR	603.36	39.44	32.67	2				
GTHM(+15.99)ENVYDFYKPDVTSEYPLVDGK	730.86	37.81	36.94	4				

GISAFLVPM(+15.99)PTPGLTLGK					908.00	40.68	28.45	2
ATIAGGGVIPH	496.79	19.18	29.82	2	496.80	21.58	35.63	2
SDTSFMFQR	559.76	24.05	50.33	2	559.77	25.10	50.17	2
VHIVSFK	415.26	13.02	38.46	2	415.27	16.47	41.31	2
SSLNPILFR					523.82	30.04	37.91	2
QSGAFLSTSEGLIFQLVGDATHPQFK					926.86	48.96	40.73	3
P(+42.01)FVE(+21.98)LDTSLPAGR					733.40	44.82	30.28	2
TVLIME(+21.98)LINNVAK					740.42	45.92	39.61	2
VDQVQDIVTGNPTVIK	575.99	33.38	43.25	3				
PVQGVAYVR	494.79	13.84	28.01	2				
IMDLLGDR					466.77	28.00	35.2	2
HVGDLGNVTADK					613.35	14.56	60.01	2
AFLPEMMK	483.76	30.70	28.21	2	483.77	29.80	35.16	2
DLVNM(+15.99)LFYHDR	480.25	37.86	33.66	3				
IMYLSEAYFR					646.84	34.17	57.35	2
NLNSDMDSILASLK					760.92	42.79	70.33	2
ENIQVFDFELTPEDMK					978.03	42.49	38.17	2
LAIGEGQQHQLGGAK	502.95	12.72	39.05	3	502.96	16.20	33.3	3
LVSDEMVLELIEK	759.42	54.19	51.31	2	759.43	43.82	59.27	2
APDTAALDE(+21.98)LGLSK					711.91	31.34	27.04	2
DVPYPPPLPPAIEAIQK	615.70	50.54	32.07	3	923.05	40.57	30.44	2
FLGVAEQLHNEGFK	530.30	30.01	35.61	3				
FSSQEAASSFGDDR					752.36	20.36	52.27	2
DPGFDLR					410.23	22.13	29.84	2
DGPGFYTTR					507.28	18.46	49.46	2
IKPHLMSQELPDDWDK					651.35	26.73	47.92	3
SNIDNMFESYIN(+.98)NLR					915.96	39.55	61.15	2
EMQSLTFQN(+.98)C(+57.02)YSGGFLSHWDQLTR					969.49	43.32	24.13	3
C(+39.99)LDEFPNLK	559.77	50.17	23.43	2				
VAFITGGGTGLGK	589.35	26.17	51.54	2	589.35	25.24	55.75	2
VLVWPVEFSPWLN					793.44	49.99	32.68	2
YEKPIEEVLK					624.39	21.00	40.72	2
DHLLLATMEAM(+15.99)N(+.98)GGK	539.94	27.50	38.83	3				
IDNQC(+57.02)PSHLAIQENANTLAR					755.74	23.32	56.19	3
LLEVEHPAAK					553.85	14.81	25.17	2
VGTPLFADQADNIAR	794.42	31.82	33.33	2	794.44	29.70	44.34	2

ILMVGLDAAGK	544.32	30.24	47.06	2	544.34	29.21	45.49	2
LAPEYEAAATR					596.34	17.00	53.32	2
ILLAELEQLK	585.38	42.10	39.6	2	585.39	36.67	46.17	2
FHPTHLTMPR					412.89	16.24	36.83	3
LIFPYVELDLHSYDLGIENR	802.77	60.06	26.72	3	802.79	45.95	37.25	3
LIGTFNVIR					516.82	29.71	29.27	2
A(+42.01)DQLTEEQIAEFK					782.41	35.84	41.66	2
Q(-17.03)FYPDLIR	517.79	49.19	27.54	2				
STELLIR					416.27	20.38	27.57	2
LLISHLSGIR					554.85	24.39	40.13	2
DTVPLPAGGAR					527.33	19.24	37.71	2
DIITAIR	401.25	23.90	23.47	2	401.26	24.97	29.69	2
TVVTGIEMFHK	421.24	24.73	25.48	3				
IVVHLAHALK					550.85	16.65	45.86	2
TGTAEVSSILEER					696.40	26.90	55.63	2
YPIE(+14.02)HGIITNWDDMEK					659.01	32.78	41.34	3
DYPLPDVAHVK					627.36	25.89	33.04	2
DPSGFSPE(+21.98)VQK					606.81	18.66	38.65	2
SAGIFTNDIDK					590.83	23.66	25.02	2
LVILMDPFEDDLK	774.42	56.53	34.95	2				
GALIFSPEGLPHR	465.28	31.02	31.13	3	697.42	29.78	46.01	2
IYQDPQVM(+15.99)LAPLISIALK					1015.08	45.99	47.52	2
SLQDIIAILGMDELSEEDK					707.06	49.36	77.09	3
A(+42.01)AAKPENLSLVVHGPGDLR	662.72	32.81	36.97	3	662.73	30.10	40.89	3
PFSVHYDPYTQR	503.93	20.89	29.74	3	503.94	23.01	29.67	3
FSPAGPILSIR	579.34	35.25	40.15	2	579.35	31.58	36.6	2
MSTLLINQPQYAWLK					903.49	39.08	39.81	2
ISVNNVLPVFDNLMQQK	653.69	58.32	34.15	3	980.05	44.84	39.66	2
TAAYVN(+.98)AIEK					540.80	16.49	39.16	2
LSILYPATTGR	596.36	28.84	37.69	2	596.35	27.48	42.91	2
C(+39.99)FGGLFGYTER	645.31	61.17	28.76	2	645.31	46.36	31.58	2
TVME(+21.98)NFVAFVDK					711.37	39.56	28.55	2
AQAVHPGYGFLSENK	539.96	19.16	49.62	3	539.97	22.28	60.36	3
TTGIVMDSGDGVTHTVPIYEGY	771.39	43.61	36.65	3				
LVQAIIEN(+.98)SFLN(+.98)GEVIR	639.69	49.81	25.71	3				
LLAEPVPGIK	518.84	25.59	27.64	2				

TIPMDGNFFTYTR	781.88	41.91	30.17	2	781.89	35.53	46.34	2
VDIVAINDPFIDLH	790.92	55.71	37.99	2	790.95	43.97	38.73	2
LVTLASHLPSDFTPAVHASLDK	580.59	37.59	33.8	4				
FANPFPAAVR	545.32	30.48	46.13	2	545.31	28.26	49.1	2
QAFQIGSPW(+31.99)R	611.32	29.59	24.67	2	611.32	29.92	33.09	2
KSDIDEIVLVGGSTR	530.31	27.98	41.55	3	530.32	27.55	41.67	3
DVFVAIVQSVK(+27.99)	616.85	47.45	34.25	2				
FGLFTPGSR	491.27	28.92	32.46	2	491.27	28.13	33.16	2
ALTVPELTQQMFDAK					846.47	39.72	43.95	2
QGAETVQELLEVAK	757.91	41.11	24.02	2				
AQFGQPEILIGTIPGAGGTQR	704.40	44.89	52.84	3	704.40	37.03	53.2	3
WGDAGAEYVVESTGVFTTMEK					759.72	42.01	56.52	3
HIDSAHLYQNEEQVGQAIR	552.79	21.12	59.12	4	736.73	22.81	73.19	3
SSFFVH(sub N)GLTLGGQK					739.40	35.82	39.73	2
HYQDVLYQAK					632.85	17.15	57.7	2
VSQEHPVVLTK					618.89	13.63	54.36	2
KEEELQAALAR					629.38	17.38	37.55	2
VQPYLDEFQK	633.84	26.09	25.73	2	633.85	26.34	38.75	2
LPYTEAVLHEIQR	523.64	33.14	55.62	3	523.65	30.57	52.3	3
SLAM(+15.99)E(+21.98)MVLTGDR	454.21	37.28	23.84	3				
ILPSVPEVDESTDFFK	911.97	49.17	26.96	2	912.00	39.89	25.05	2
LEC(+57.02)GGGPWGNK					587.79	17.16	44.34	2
DIDSLAQR					459.26	17.66	26	2
YFHVVIAGPQDSPFEGGTFK	732.71	41.61	35.46	3				
LVFDEYLK	513.79	36.12	39.14	2	513.80	32.50	37.17	2
VISTMSVGVDHLALDEIK					643.04	34.51	57.3	3
DLAPMGIR	436.74	23.41	31.99	2	436.75	24.20	29.75	2
SYLTEQVNQDLPK					767.95	27.85	53.73	2
IYLTADNLVLNLQDESFTR					1113.13	44.31	59.77	2
LTFVDFLTYDVLDQNR	653.68	66.45	71.47	3	980.04	49.18	68.38	2
KQTALVE(+21.98)LLK					582.87	25.08	32.04	2
ALDLAENEMPGLMHM(+15.99)R	615.30	33.77	43.73	3				
IVVVTAGVR	457.30	17.23	37.87	2	457.32	19.98	42.82	2
SGVYQHVSGEIMGGHAIR					633.35	23.04	47.77	3
GYSFVTTAER	565.79	19.10	56.12	2	565.80	21.67	56.03	2
VLPSAIVQSVGVSAGR	513.97	35.22	51.04	3	770.46	31.22	69.49	2

KPLVIIAEDVDGE(+21.98)ALSTLVLNR					796.49	43.97	34.59	3
AAIVWKPGGSFSIEEVEVAPPK					771.12	37.05	34.28	3
C(+39.99)LDAFPNLK					530.79	41.38	27.58	2
ILPSVSHKPFEFIDQGHITHNWDEVDPDPNQLR					777.03	35.00	26.74	5
AFIVLNPEFSSR	690.38	39.77	59.67	2	690.38	34.54	46.86	2
QATVGDINTERPGM(+15.99)LDFK	670.01	26.53	25.5	3				
DIPVPEE(+21.98)LVFTVDEK					876.50	43.41	24.32	2
GHYTEGAELVDSVLDVVR	653.68	50.32	55.49	3	653.70	41.62	58.16	3
TDEFQLHTNVNDGTEFGGSIYQK	867.43	35.41	44.11	3	867.47	30.71	57.51	3
LSQALGNVTVVQK	678.91	21.44	33.98	2				
VVDLM(+15.99)VHM(+15.99)ASK	421.23	12.22	22.43	3	421.24	24.25	24.85	3
AWRDPEEPVLLK					484.95	26.38	56.21	3
GVEEGATLVC(+57.02)GGK					638.85	18.76	39.88	2
DGFIDLMELK	590.82	54.36	39.89	2	590.82	43.27	29.1	2
ESLLPVAK	428.77	19.55	37.44	2				
MPGAFDWSPVVK					667.37	35.93	55.5	2
GGAPDTAALH(sub D)ELGLSK					768.94	31.74	25.53	2
LVVPGLLILDSIK					690.45	47.75	27.7	2
FGMAAALAGTM(+15.99)K					592.80	25.05	46.1	2
GVFHGIENFINEASY					848.94	40.25	38	2
HIYLLPSGR	528.31	18.21	28.16	2	528.32	20.87	45.97	2
IFFSLLR	448.28	42.85	25.09	2				
VINQILTEMDGMSTK					840.46	35.32	53.79	2
VMLPANSFQGK	596.33	22.52	33.96	2	596.34	23.81	41.73	2
HGAGLFDVTR	536.79	17.46	48.21	2	536.80	21.04	58.12	2
EQAGGDATENFEDVGHSTDAR					736.00	19.23	49.23	3
AAFIGIGLPEPK	606.86	39.52	48.74	2				
APGGHFTLQEVEEALAR	609.00	42.59	27.02	3				
TENPLVLIDEVDK					742.94	39.05	39.01	2
HQESLDLNNPQDFIDYFLIK	817.11	62.95	43.74	3	817.11	47.70	56.34	3
PSFAVESIEDALK	703.38	53.17	36.7	2	703.39	43.09	53.47	2
QYSVGDAPDYDR					693.34	19.22	51.24	2
GPLLVQDVVFTD(+14.02)E(+14.02)MAHFDR	739.71	54.36	28.43	3				
DGEVLLEALYLTVDPYMR					1049.08	50.38	76	2
SLNILTAFQK	567.84	40.41	34.92	2	567.84	35.40	50.65	2
DVILQELQENDTSMR					896.00	34.00	60.41	2

EIVTNFLAGFE(+21.98)A	666.84	62.52	25.58	2	666.86	47.47	36.46	2
YNLENFMVINSVAFDHADPSIFTVLTAK					1052.91	48.52	42.08	3
SGSPANFAVYTALVEPHGR	658.35	37.99	42.47	3	658.37	34.13	26.68	3
NLALELAESNVR	664.88	32.98	63.41	2	664.89	30.82	53.46	2
TGLLSGLDIME(+21.98)VNPSLGK					933.53	44.09	33.29	2
EPITVSSH(sub D)QIAK					655.38	20.00	31.51	2
QALTNIGEILK	600.37	35.04	37.42	2	600.38	32.25	51.66	2
SFTGNFIIDENILK	805.95	49.64	28.53	2	805.96	40.66	60.19	2
IVGGNAAQLAHFDPR	522.63	24.70	31.83	3	522.64	25.27	25.93	3
AFMALIDELIAEQK					796.46	47.84	60.59	2
IVLNPEFSSR	581.33	24.83	29.12	2				
FPLGPVTSTTR					588.34	25.07	30.59	2
LHEAVFLR					492.81	19.43	39.79	2
KLDGEASDLHEQIAELQAQIAELK	663.13	52.61	32.39	4				
VGNTPLDMNQFR					696.38	27.74	50.99	2
PVTLELGGK	457.28	18.87	39.11	2				
FVGIKDEDQLEAFLK	584.67	43.84	23.98	3				
SNMIASALAQIPQK	491.28	40.68	34.35	3	736.42	34.51	60.49	2
VAGALAEAGVGLEEITDR	591.00	44.10	84.48	3	886.03	36.98	61.15	2
LLPLTDQAAK					535.35	22.05	34.35	2
ASLENSLR					445.27	15.49	35.87	2
DNHLLGTFDLTGIPPAPR	645.36	47.97	52.99	3	645.38	38.92	41.04	3
SLEDALSSDTSGHFK					797.43	25.31	58.68	2
GFPVYSHVD(+21.98)PK					634.34	19.89	33.57	2
SLQDIIAILGMDE(+21.98)LSEEDK					1071.07	49.40	30.01	2
NAGDALTMEVLR					645.37	30.50	31.86	2
AVGMPDH(sub D)IIQK					604.84	25.22	33.35	2
SAYALGGLGSGLC(+57.02)PNR	796.90	32.62	43.28	2	796.92	29.23	50.41	2
DYIDC(+57.02)FLSR	594.79	42.70	32.3	2	594.80	35.79	42.53	2
QYFQSSFPAR	615.81	22.50	48.25	2	615.83	24.09	53.98	2
SGPFAPVLSATSR					645.38	28.70	24.85	2
DGSIDLVINLPNN(+.98)NTK	864.47	46.68	32.85	2	864.48	37.10	49.71	2
LLANMVYQYK					621.84	28.29	43.5	2
VRPPVQIYGIEGR	495.30	25.74	35.12	3				
LFLVDDLVDSLK					688.92	47.56	47.13	2
EILGTAQSVGC(+57.02)NVDGR					838.47	23.21	38.76	2

VVEPEEIHAK					575.83	13.71	42.1	2
SVRPGVAIADF	566.32	29.64	34.83	2				
LGATTHVFVVDC(+57.02)SNR	559.30	20.31	50.28	3	559.31	22.59	47.52	3
IMDFAIPHK					536.31	25.88	38.94	2
YTISIPETLKPR	473.29	30.89	45.5	3	473.29	28.11	29.62	3
TEQGPQVD(+21.98)ETQFK					764.87	18.81	41.06	2
AVEHLDDLPGALS(+27.99)ELSDLHAHK	479.86	39.57	47.33	5				
VFEFGGPEVLK	611.34	36.88	58.01	2	611.36	33.30	53.58	2
SFITSISNK	498.78	20.21	23.38	2				
FDVSGYPTIK	563.81	28.70	49.46	2	563.82	27.33	53.21	2
PVIGPQYLLEK	628.87	35.31	34.84	2	628.89	32.68	38.03	2
YATLPNIMK(+42.01)AK					431.25	30.82	27.97	3
ILYLFYEDMK					667.87	39.00	36.67	2
IDPLAPLDK					491.32	29.94	29.77	2
LDISDEFSEVIK					697.91	38.36	49.49	2
IN(+.98)GNMGLAMK					525.28	22.41	30.97	2
NLASVGLNLIASGGTAK					793.46	37.39	54.26	2
TVFEDD(+21.98)PFLK					616.84	33.21	25.81	2
IQEGVESLAGYADIFLR	627.68	60.28	43.22	3	941.03	46.53	65.68	2
ASAEDVVVVHGR					619.87	15.53	61.54	2
NIDYETVAINLTK	747.41	40.71	56.09	2	747.43	34.82	74.49	2
SVPALANIIK	513.33	33.83	29.67	2	513.34	30.67	36.75	2
ITTHYTVYPR	417.57	13.94	45.99	3	417.58	17.20	40	3
GPAGLSSALLR	521.32	26.20	44.48	2				
KFGTVNIVHPK					413.92	15.56	36.06	3
LGIEGLSLHNVLK					696.94	33.24	37.36	2
QGAAIGIPYFTAYR	764.41	43.84	39.11	2	764.41	36.83	42.18	2
NVDPETMLLPYLR					780.94	43.57	65.44	2
IEANEALVK					493.81	17.06	34.19	2
DTIFDVPVER					595.85	32.74	32.33	2
PEYMLPVHFYGR	503.60	39.32	24.6	3				
DLVPDLSNFYAQYK	836.93	53.51	34.93	2	836.95	42.09	47.55	2
LLDAVDTYIPVPTR	786.95	45.58	51.89	2	786.97	37.48	58.02	2
NMGLYGER					470.26	16.89	30.09	2
EQQIVIQSSGGLSK	737.42	19.10	53.48	2	737.42	21.05	51.25	2
C(+39.99)YSGGFLSHWDQLTR					905.43	41.53	34.67	2

DQQEAALVDMVNDGVEDLR					706.38	43.69	40.12	3
WGDAGAEYVVESTGVFTTM(+15.99)EK					765.05	38.48	35.67	3
EGWLDFR					461.74	33.30	35.69	2
DYFFALAH	492.25	43.10	35.67	2	492.26	36.62	38.34	2
LLIYTEFGK	542.32	34.46	42.64	2	542.33	31.94	39.4	2
IGVAIGD(+21.98)QILDLSVIK					838.52	44.99	38.01	2
QHGIPVPVTPK	586.86	14.35	41.81	2	586.87	18.31	53.9	2
QVAEVFTGHLGK	429.25	19.56	32.17	3	643.38	22.31	45.74	2
NFVINVVNR	537.82	28.17	41.62	2				
LNDGHFIPVLGFGTYAPPEVAK	781.43	48.80	59.35	3	781.45	40.21	42.06	3
NIVPTPVK					434.28	18.66	30.04	2
ALEDNM(+15.99)SLDEIMK					762.90	29.31	45.87	2
KPMVLGHEASGTVVK					518.31	14.64	42.41	3
IAFAITAIK	474.32	33.60	28.35	2	474.31	31.17	26.79	2
LGDPAEYAH					486.74	16.64	43.31	2
PDDLLISTYPK	631.35	30.77	32.2	2				
NLLLAE(+21.98)VINVIK					680.93	46.79	36.93	2
AAFEEPELLAQDIR					801.47	35.78	40.99	2
ELEE(+21.98)IVQPIISK					710.41	32.93	33.23	2
TAVFVNISR	503.80	22.31	41.22	2				
AVLDELVMR	523.29	34.76	45.54	2				
SVTNEDVTQEELGGAR					852.93	20.50	45.7	2
GIGISVLEM(+15.99)SHR	438.91	23.07	33.28	3				
VLLILC(+57.02)GGDD	537.79	45.34	30.24	2				
APGPR					497.30	25.35	25.26	1
SVLLCGVETQAC(+114.04)ILQTALDLLDR					863.49	50.01	37.06	3
VAQVAEITFGQK	645.87	25.53	49.15	2				
VIMHDPF					429.73	26.91	29.32	2
AGTHILC(+57.02)IK					506.81	16.33	31.27	2
NFSDVHPEYGSR					704.36	16.61	52.01	2
ILIRPM(+15.99)YSNPPIN(+.98)GAR					610.35	24.49	39.26	3
M(+15.99)FLLQGAQMLQMLEK					898.98	45.11	38.67	2
DVEIHGVS(sub T)IPK					597.35	25.03	37.02	2
LLQDFFDGR	555.80	38.32	40.55	2	555.81	33.46	43.85	2
SLGIETLGGVFTK	661.38	43.95	37.19	2				
LEGSEVQLLEYEASAAGLIR	716.72	59.17	56.26	3	716.74	46.00	65.33	3

TLLVADPR	442.75	17.84	31.64	2				
VDEYDYSKPIQGQQK					899.50	17.21	45.47	2
TAVDSGIALLTNFQVTK	593.36	53.61	74.76	3	889.52	41.57	79.39	2
TVFEDDPFLK					605.84	33.09	32.95	2
VIPLFIPQCGK(+57.02)					636.36	49.80	41.06	2
TADGIVSHLK	520.80	13.04	53.48	2	520.81	16.13	51.25	2
YFPTQALNF	550.78	48.60	30.06	2				
IGAFSYGSGLAASFF(+21.98)					758.88	48.21	27.68	2
ALEDMFH(sub D)ALEGK					680.84	41.44	27.74	2
WETPYMHALAAAAASR					582.64	32.49	53.34	3
ESVNAAFEMTLAEGVK	848.44	42.92	37.85	2	848.45	36.36	61.36	2
LSHVISQHQALLGK	510.97	13.58	52.14	3				
EHALLAYTLGVK	438.93	28.39	43.98	3	657.90	28.26	50.09	2
S(+42.01)GALDVLQMK	552.31	45.81	34.15	2				
IKPTRPIGLFMYYENNPEK					578.31	29.98	29.76	4
KEGGLGPLNIPLLADVTR					621.71	41.63	57.75	3
FLVGFTNK					463.26	26.44	27.65	2
TGLLSGLDIM(+15.99)EVNPSLGK	930.50	48.15	49.31	2				
LEAGTVFVNTYNK	728.40	27.08	68.22	2	728.41	26.59	67.73	2
TLNEALEFAK	568.32	27.14	35.04	2				
VVLDDKDYFLFR	510.63	40.48	50.64	3	510.63	35.08	43.05	3
LAASEAATAITHQAMQILGGM(+15.99)GYVK					850.11	44.16	24.54	3
KLEMDLK					438.78	15.83	23.6	2
LIFLEN(+.98)YR	534.81	38.26	22.75	2				
EAAMGQGFDR					541.26	15.79	35.77	2
LAADDFR	404.21	14.56	26.2	2				
PNLPFLLEDPVLSAIAK	919.05	66.04	37	2	919.06	48.11	57.36	2
MTGSNFDASSFNPH					756.35	24.90	61.63	2
VEVYLDGGIR	560.82	26.32	44.23	2				
VNQIGSVTESIQAC(+57.02)K					817.45	25.05	37.25	2
HYEVEILDAK					608.85	22.66	34.41	2
SLANVILGGYGTTSTAGGK	589.65	39.00	38.69	3	883.99	33.82	32.42	2
VVASGFDFAN(+.98)GISM(+15.99)SPDR	943.95	36.84	47.83	2				
DENATLDGGDVLFTGR					840.45	33.08	56.18	2
MPEEMLAEK					539.27	19.97	48.67	2
GPGPK					455.30	57.54	24.24	1

M(+15.99)FLSFPTTK	544.29	30.63	34.69	2	544.29	28.96	39.66	2
ITLPVDFVTADK	659.89	43.50	34.26	2	659.90	37.08	45.02	2
Q(-17.03)AQNIVTLATSIK					685.40	41.29	24.96	2
TFDIQLGD(+21.98)IVDEIQR	595.31	57.85	25.54	3	892.48	44.94	25.98	2
AIYIFAK					413.26	25.79	23.99	2
VIMDYESQGK					585.32	17.41	42.46	2
VIEGM(+15.99)DVVR	517.29	14.06	35.29	2	517.29	16.59	26.98	2
PDVPAPLTNLQFK					720.43	35.11	34.13	2
VFQQQLEVFVK	682.89	36.20	59.55	2	682.92	32.89	62.41	2
VSMELGGHAPF					572.80	30.17	41.1	2
TTGIVM(+15.99)DSGDGVTHTVPIYEGYALPHAILR	800.69	43.41	26.09	4				
IYTFNQSR	514.77	14.79	40.01	2	514.79	17.66	26.73	2
TFVNITPAE(+21.98)VGILVGK					840.50	42.40	39.9	2
VGLNLPNIGVR					576.36	32.69	40.61	2
DC(+57.02)LIPMGITSENVAEQFGISR	779.74	59.38	29.96	3	779.76	45.12	53.64	3
GGPVQVLE(+21.98)DQELK					717.41	28.32	36.06	2
APMLNPTLGVHEADLLK	607.03	37.66	55.51	3	607.03	33.42	57.26	3
PILLQIAESAYR	687.41	45.96	36.39	2	687.41	37.66	36.26	2
VAVVQYSDR					518.82	15.88	38.12	2
IITHPNFN(+.98)GN	564.29	17.93	28.61	2	564.30	19.94	23.92	2
TILE(+21.98)ELVTR					548.33	33.28	28.59	2
LQGIGEEVVK					536.34	21.10	32.76	2
AHHLPQFDPK	595.33	11.85	29	2	595.34	14.41	27.08	2
KEYWENLQIASGR					531.97	27.11	29.42	3
ADFGAQVVR	481.77	16.07	22.46	2				
LSLVVHGPGDLR	421.59	25.10	31.41	3				
THILLFLPK					541.35	30.65	56.37	2
A(+27.99)VEHLDDLPGALSELSDLHAHK	599.57	48.12	26.6	4				
NSN(+.98)VGLIQLNRPK					727.43	24.29	41.53	2
SPLQELSPAQEEALR					834.49	28.43	38.59	2
THLPGFVEQADALK	509.28	28.25	47.1	3				
DDN(+.98)GKPYVLPSVR	487.60	24.11	44.95	3	730.90	23.90	46.72	2
ALED(+21.98)NMSLDEIM(+15.99)K					773.88	27.85	23.75	2
LIFLENYR	534.31	44.23	35.07	2	534.31	31.45	40.83	2
DAGTIAGLNVLR	600.36	36.98	51.87	2	600.36	32.75	48.23	2
GVTHNIALLR					547.34	19.19	56.26	2

SSVFDLFR					485.77	39.09	38.92	2
AVEHLDDLPGALS(-18.01)ELSDLHAHK	470.66	38.89	39.23	5				
FLMAN(+.98)GQLVK					561.32	28.86	30.95	2
SPPEPWGWPLLGH					736.91	43.55	49.36	2
LQQELDDLVVDLDNQR					638.37	38.88	41.76	3
GTTVVTSLSSVLHDEK	558.31	31.76	22.64	3				
ALLDSLQLGPDALTVHLINEVTK	820.82	65.78	23.04	3	820.82	47.07	45.67	3
Q(-17.03)ALTNIGEILK	591.85	52.17	34.87	2				
YLLGTSLARPC(+57.02)					625.85	28.22	28.72	2
Q(-17.03)DEVYYDSSILTPLLLR	1004.55	66.79	30.78	2	1004.57	49.57	35.92	2
IAFGGEMDEATR					648.84	24.03	47.75	2
FGLIPEEFFQFLYPK					938.00	49.72	35.77	2
VGEVIVTK					422.79	15.27	38.82	2
LKLPLEK					420.80	20.34	25.31	2
VPLHKPTDWEK					450.60	15.25	23.55	3
QVFLSTR	425.75	14.59	27.49	2				
ILLMDLNK	480.29	31.64	36.13	2	480.30	30.34	37.83	2
C(+39.99)LYSLINEAFR	684.85	66.81	35.21	2	684.85	49.56	36.45	2
FYTEDGNWDLVGN(+.98)NTPIFFIR					1260.16	48.32	47.47	2
RPDFQTTGQWDVITEK					641.02	28.73	54.2	3
ETAENYLGHTAK					667.36	14.53	48.38	2
IVGLVGVDQFLVK	693.91	50.03	35.41	2	693.94	40.43	45.46	2
LILPHVDVQLK					425.62	31.98	36.46	3
ITEIYEGTSEIQR					769.94	23.12	55.03	2
LDM(+15.99)PYLDAVVHEIQR	605.66	43.43	40.28	3				
EALID(+21.98)QGEEFSGR					736.86	27.23	25.65	2
TIVAINKDPEAPIFQVADYGIVADLFK					983.20	48.54	59.91	3
DTVPWFPR					509.30	33.26	31.86	2
AMGAAQVVVTDLSASR	788.44	34.87	56.38	2	788.45	31.71	76.89	2
N(+.98)GVAIVDIVDPLISLSGEYSIIGR					1251.26	50.46	40.27	2
LNPNFLVDFGK	632.35	50.89	35.82	2	632.37	37.78	50.74	2
GLPDNVSSVLNK	621.86	29.08	39.96	2	621.87	27.58	48.72	2
IGAEVYHNLK	572.32	13.10	53.62	2	572.34	16.27	59.88	2
EADDIVNWLK	601.82	42.68	40.6	2	601.83	36.31	47.7	2
LGIAPQIQDLLGK	683.42	55.49	44.12	2	683.43	39.36	58.12	2
VVTGGSDNHLILVDLR	570.01	32.50	51.76	3	570.01	30.45	43.34	3

LAPILSSAAR					499.81	21.68	33.43	2
GQILTMANPIVGH(sub N)GGAPDTAALDELGLSK					949.50	45.06	33.93	3
LTFFNSTLSTAGLEPEGEDLPIPGAHR	957.18	54.16	29	3				
ISLVLGGDHSLAIGSISGHAR	515.81	35.83	41.72	4				
LGAPALTSR					443.28	17.79	44.53	2
KEGMAAFVEK					555.33	16.63	30.64	2
TAFDAFPDQVAIQLNDTHPSLAIPELMR					1037.58	46.56	27.52	3
GVFHGIENFINEASYM(+15.99)SILGM(+15.99)TPGFGDK					1021.85	45.56	28.26	3
GGHFAAFE(+21.98)EPELLAQDIR	674.68	42.83	46.76	3				
INLDALITHSLNLDK	560.67	51.37	25.9	3	560.68	41.15	43.01	3
AALEYLEDIDLK					696.92	37.42	50.87	2
AITGIQAFVAGK					588.36	30.01	48.07	2
YEAPDHWYPQDLQAR					630.32	27.95	36.35	3
FYLDLYPR					543.81	35.36	32.49	2
FGTVNIVHPK	556.33	15.14	51.9	2	556.34	19.17	63.12	2
FEPFSNK					434.73	19.10	24.93	2
VEGGTPLFTLR	595.35	32.35	39.37	2	595.36	30.78	58.23	2
TEIIILATR	515.34	29.57	28.17	2	515.34	28.95	40.04	2
WLSMNVLMLDEK					739.91	42.24	49.13	2
GIHVEVPAAEANHLGPLQVAR	545.32	31.67	70.72	4	726.77	29.60	71.14	3
ILTTAPSHEFEHTK	403.47	12.28	35.49	4	537.64	15.87	24.86	3
ESLLSVAPK	472.28	21.53	31.19	2				
GPPVSELITK	520.80	20.73	34.83	2				
GLFDEYGSK					508.26	25.15	58.04	2
DIETKPIVIGLINMPPPFK	708.09	57.27	50.1	3	708.09	44.12	50.83	3
IHPVPFNQEELEAR	560.31	24.15	53.77	3				
ALMLQGVD(+21.98)LLADAVAVTM(+15.99)GPK					1076.09	48.44	36.3	2
PVTTPEEIAQVATISAN(+.98)GDK	681.37	40.07	26.16	3	681.37	34.07	32.12	3
EGIPALDNFLDKL					722.92	47.92	51.16	2
ALPAAAIEGPAYNR	707.39	25.08	53.84	2	707.41	25.46	59.32	2
SPAQILLR	449.29	21.08	32.6	2	449.29	22.82	43.7	2
IIDSLFNTVTDK	683.38	37.61	41.3	2	683.40	33.24	58.16	2
Q(-17.03)LETIDQLHLEYAK	842.44	45.88	40.58	2	842.47	37.85	29.83	2
NDGSLM(+15.99)FQQVPM(+15.99)VEIDGM(+15.99)K	729.69	38.04	37	3				
IWHHTFY					502.26	20.38	35.4	2
LLITGAAPISPPVLTF					805.49	48.73	38.23	2

KNPDSLELIR					592.86	20.76	30.15	2
PPQPAEPWTFVK					698.90	36.64	61.28	2
IQFGVPLAK	486.81	30.99	29.72	2	486.81	28.67	40.05	2
NLQTEVIHR					555.35	15.55	42.16	2
VDLLENQVMDVR	715.89	36.16	49.53	2	715.91	31.51	47.28	2
LNLPKPQQIDFAVPANMR					684.73	35.25	50.45	3
AAQKPD(+37.96)VLTTGGGNPVGDK					621.66	17.64	30.57	3
EFGAGLSSVR	511.78	19.70	45.01	2	511.79	22.09	49.43	2
FFESFGDLSTADAVMN(+.98)NPK	697.66	49.51	43.1	3	1046.02	39.48	63.76	2
SPMVPLPMPK					548.82	30.56	29.66	2
VIEGMDVVR	509.29	22.68	44.43	2	509.29	23.92	46.08	2
TFAVQGFGN	470.74	32.65	34.28	2				
VPTAHLEDVLPLAEDITTILSK	792.47	65.15	40.64	3				
AGVLAHLEEER					612.35	20.51	41.49	2
LSLELGGK	408.75	21.20	37.66	2				
QTPALVALR	484.81	21.25	39.84	2	484.82	23.79	41.94	2
HRPELIDYGK	409.90	12.17	29.15	3				
MAGAQGLLC(+57.02)LLSDR					752.91	40.83	54.91	2
LVGPEGFVVTEAGFGADIGM(+15.99)EK	747.06	50.87	47.76	3				
QLLQANPILEAFGNAK	864.00	52.02	31.49	2	864.00	41.38	67.23	2
VSGLYETLESK					613.36	24.72	38.23	2
GELSGDFEK					491.24	16.71	33.04	2
SPQYSQVIHR	405.56	12.25	52.21	3	607.85	14.93	57.87	2
DAGEFVDLYVPR	690.86	45.09	40.87	2	690.87	37.35	43.4	2
LKEIVTNFLAGFEA					776.44	43.44	37.32	2
NIFDFNALK	541.30	42.61	33.12	2	541.31	36.75	42.18	2
LLSTVAQAVK					515.33	20.97	28.9	2
YFAGTMAE(+21.98)ETAPAVLER	626.64	37.04	44.07	3	939.47	32.66	43.06	2
SVGE(+21.98)VMAIGR					520.78	22.50	34.08	2
DTTLN(+.98)GFFIPK					627.35	36.66	37.15	2
YTVGLGQTQMGF	651.33	44.66	46.76	2	651.35	37.27	52.23	2
SAYALGGLGS(+79.97)GLCPNR(-.98)	538.94	33.14	22.69	3				
FGMHLQVATPK					614.84	22.94	62.74	2
IAPSFAVE(+21.98)SIEDALK					806.45	42.97	36.83	2
NLEYVATSIHEAVTK	558.98	30.65	43.84	3	837.98	29.24	77.04	2
DILAAIGADLSK					593.86	41.76	31.35	2

LGEHNIDVLE(+21.98)GNEQFINAAK	745.06	36.42	42.82	3				
Q(-17.03)GFIDLPEFPFGLEPR	922.99	67.18	28.16	2	923.01	50.19	30.64	2
TTAAMWALQTVEK					725.41	33.82	42.42	2
DVGILAM(+15.99)EVYFPAQYVDQTELEK	892.12	61.45	59.41	3	892.15	46.12	52.55	3
VPFLEFSAPGVPTGVELLK	667.39	63.96	41.95	3	1000.60	46.49	51.22	2
REDLEETFISLGR	522.29	37.49	49.71	3	782.95	33.18	45.94	2
SMVQFIGR					469.27	25.45	34.56	2
ELLPVLISAM(+15.99)K	615.38	40.79	23.25	2				
GQHLSDAFAQVNPLQK					585.01	28.81	47.52	3
VAEQTPLTALYVAN	745.42	45.04	39.63	2	745.43	37.47	49.03	2
VVSSILAFR					496.30	29.73	49.34	2
VGGVQC(+57.02)LGGTGALR	672.87	20.59	46.26	2	672.89	22.67	48.59	2
Q(-17.03)TALVELLK	499.31	53.66	27.45	2	499.32	43.65	23.69	2
IVLQIDN(+.98)AR					521.82	24.69	31.17	2
SSPLFGIY(+1.00)YSVEK					745.91	37.20	27.71	2
VDVAVNC(+57.02)AGIAVASK	737.41	26.62	50.21	2	737.42	25.66	49.13	2
GFAFVTFDDHDTVDK	571.95	36.57	38.95	3				
IQPHIGEVFELEEVNDAFLHVTQR					705.90	42.57	29.71	4
VQEVLLK					414.77	18.01	26.23	2
QLELILNKPGLK	455.97	28.27	38.07	3	683.44	26.91	34.27	2
VAFGKPLVEQGTVLADIALSR					728.78	40.94	41.94	3
EGQTFYYAEDYHQQYLSK					757.37	27.15	28.77	3
NLKPIKPMQFLGDEETVR					705.75	29.02	58.53	3
NTPIFFIR					504.30	32.90	24.3	2
NVTLPAVFK	494.81	41.34	26.76	2	494.82	31.02	35.36	2
LNQTTLMSSR					575.83	17.41	44.17	2
DMDLYSYR					531.77	25.77	38.64	2
GQNQPVLNITNR	677.39	18.43	64.18	2	677.40	21.05	65.75	2
WLPE(+21.98)LVER					532.30	31.88	25.34	2
AFMTADLPNELIELLEK					974.07	49.52	41.15	2
IAVIGQSLFGQE(+21.98)VY					773.44	44.55	26.25	2
EYQELMNVK					577.32	22.10	41.81	2
FLPHPVYSK	544.31	14.46	38.68	2	544.31	17.45	39.28	2
IVNSDPIEESIK					672.40	23.17	47.07	2
GFQAAVAAGAK	495.79	13.44	52.43	2	495.80	16.39	49.15	2
QLAHAQSILDAK	432.25	14.13	38.85	3	647.88	18.08	47.93	2

SFEEIAAEFR					599.84	33.83	49.43	2
VDLLENQVM(+15.99)DVR					723.92	26.48	33.32	2
FVGVNASDINYSAGR	785.41	28.49	30.71	2				
DLMPLLQMR					558.82	39.32	26.62	2
AEIDMLDIR					538.31	31.04	42.75	2
DVYTAGIATHFVDFEK	604.99	43.19	24.92	3	906.98	36.59	44.27	2
IASYNIDGTFFPK	736.89	39.33	60.76	2	736.91	34.37	60.34	2
YTHSFPEALQK	440.90	14.88	36.45	3				
SSPLFGIYYSVEK	745.39	43.25	33.77	2				
NQLTSNPENTVFDAK					839.47	24.91	46.23	2
AFAISGPFNVQF	649.34	62.38	36.79	2	649.35	46.86	46.44	2
LFVALQGC(+57.02)MDK					641.34	29.65	26.43	2
LGKDAVEDLESVGK	487.27	25.28	25.88	3				
GTVVIPTLDSVLHDR	541.32	43.04	48.8	3	811.49	36.71	40.55	2
EISHDPSLKPWTASYDPGSAK					572.31	25.08	43.65	4
SIFSAVLDELK	611.36	57.41	47.19	2	611.37	45.75	54.29	2
VAPLGEEFR					509.30	22.97	37.66	2
EQGYDVIAYLANIGQK(+21.98)					902.48	43.77	36.64	2
SLSGMLTLPLHVGEK					791.46	35.73	48.91	2
LASDLLEWIR	608.35	51.39	43.58	2	608.37	42.18	53	2
GGLFSQTFR	506.78	27.53	43.79	2				
STAIILVPTSYEWFK					877.99	44.03	35.09	2
LIIN(+.98)SLYK					482.81	28.43	25.53	2
IDIDPDETVR					586.81	22.84	30.39	2
LGVTVLSR	422.78	19.44	42.68	2	422.78	21.24	39.56	2
IEEVVLEAR					529.32	22.51	43.22	2
QHLQIQSTQSSLNEVIQNLAATK	851.15	46.38	52.48	3	851.15	37.51	72.55	3
IDWDQPAEAIHNWIR					622.01	40.76	44.1	3
AAYQVAALPK	516.31	19.00	55.88	2	516.32	21.67	55.83	2
LQEEIDATFPNK					702.90	24.87	49.38	2
NMVPQQALVIR	634.87	28.10	35.78	2	634.89	27.78	42.36	2
ADGDSWVLSGTK					618.34	24.26	56.45	2
EPVVLALAEK					534.86	28.88	38.1	2
APGMDQLVLPTK	635.37	31.09	32.7	2				
VESSALELTEEELGTAEAVR					711.72	38.34	72.34	3
LIDGILTEQK	565.34	26.76	42.53	2	565.35	26.69	49.2	2

ALN(+.98)DHHVYLEGTLLKPN					645.70	29.13	38.99	3
PAEQTPLTALHMGSLIK					603.02	33.56	66.34	3
VGM(+15.99)AAVQLVPGQAFDGQR	620.67	32.62	36.19	3				
FEAPEALFQPH	643.33	38.62	28.53	2				
VPDDAEHLAAR					597.31	14.37	52.26	2
VNVPVIGGHAGK	574.34	15.09	49.1	2	574.36	18.89	52.98	2
LQFWMK					426.73	28.84	29.38	2
GD(-18.01)GPVQGTIHFEAK					479.95	20.61	32.33	3
GIKPVTLELGGK	404.59	19.92	51.86	3	606.40	22.97	46.31	2
LTSYALSIPFVR					683.90	50.09	40.41	2
SGGGYIVVDPILR	673.40	38.21	45.21	2	673.40	34.18	51.44	2
QTVAVGVIK	457.79	15.40	32.32	2	457.81	18.91	36.62	2
FGYSGAFK	438.73	18.94	23.64	2				
LFPSFIHSQK	602.34	53.83	24.49	2				
SVFALTN(+.98)GIYPHK					724.42	30.55	39.44	2
TLDPMAIFFTSGTTGFPK	644.34	63.42	30.2	3	966.00	47.73	75.38	2
GVEVTVGHEQEEGGK					777.89	13.65	42.55	2
TISLIMK					403.27	24.83	28.4	2
LDGSLDFK					447.76	22.44	33.54	2
AIGAALAAR	407.26	13.48	36.32	2				
LSIQC(+57.02)YLR	526.79	30.17	31.93	2	526.79	28.36	34.07	2
ILIEWLETDAR					679.90	39.88	55.4	2
LLDAAGANLK	493.30	17.66	36.12	2	493.30	20.13	40.24	2
N(+.98)HLLHVFDEYK	472.59	28.94	26.26	3				
YFPYYGK	469.24	21.67	24.82	2				
GFPTIYFSPANK(+21.98)					682.34	33.48	31.48	2
ALTSE(+28.03)LEALGK	580.33	29.90	38.36	2				
LEQFVSLLMASIPVSGH					609.99	48.46	39.61	3
YGLAAAVFTK(+21.98)					531.79	27.98	27.23	2
GDFC(+57.02)IQVGR					526.27	23.96	32.51	2
DVVIC(+57.02)PDASLEDAK					766.41	27.94	34.8	2
FLAN(+.98)VSTVLTSK	640.87	44.67	30.01	2	640.89	33.24	47.19	2
M(+15.99)IASALAQIPQK	643.87	23.93	44.35	2				
YVANLFPYK	557.81	31.50	44.5	2				
N(+.98)SNVGLIQLNR	614.85	32.40	23.68	2				
FSSETWQNLGTLHR					559.31	27.98	44.36	3

IGDEGQGFLIAM(+15.99)K	697.87	28.34	44.35	2				
PTGGAGAVAMLVGPEAPLVLER	702.40	52.95	48.38	3	702.42	42.57	44.17	3
HLHFTLVK					497.81	17.78	41.26	2
DTGPGVTQPEVDTPLGR					869.99	26.44	27.9	2
GYGLIFSN(+.98)GDTWK					729.88	37.89	38.31	2
FSLMVLR					433.25	33.09	33.85	2
LLDNWDTLASTLSK	788.92	50.03	54.59	2	788.95	40.57	68.26	2
LNSPLTPEK	499.79	14.66	43.78	2	499.82	17.63	37.62	2
NSNVGLIQLNRPK	484.96	17.88	43.8	3	726.93	20.77	61.23	2
ADLLEPEVFHLNPAK	564.98	38.85	42.07	3	565.00	34.43	39.43	3
GAVEIIFK	438.78	27.52	35.46	2	438.79	28.09	34.44	2
QADTVYFLPITPQ	746.91	54.62	25.91	2	746.93	43.35	23.62	2
VLDQYIFELSR	691.88	44.53	38.13	2	691.91	37.58	58.11	2
VIEFTEQTAPK					631.88	21.49	32.49	2
LNDGHFIPVLGFGTFAPR	653.36	50.69	57.88	3	653.36	40.73	65.68	3
IIVVDINSEK	565.33	23.75	36.18	2	565.35	25.06	40.75	2
NLSIYDGPEQR					646.36	22.08	39.03	2
FGFPEGSVELYAEK					786.91	35.45	57.94	2
WADDGLDTGDLLLQK					830.47	37.14	46.78	2
TVSVLN(+.98)GGFR	525.79	25.48	28.07	2	525.80	24.86	27.22	2
DHLLLATMEAMN(+.98)GGK	534.61	36.07	42.49	3	801.42	32.33	46.32	2
IVLQIDNAR	521.32	21.02	35.91	2	521.33	22.96	34.62	2
ELADPSSIR					494.29	17.63	33.51	2
GEFEGFVAMVNK					664.35	34.61	54.23	2
AVALQNPQAHVIENLHAAAYR	572.33	27.92	57.11	4	572.33	27.22	26.87	4
GLEGFVAAISPF	604.33	65.07	39.41	2				
ELDLAEDR					480.75	17.90	40.88	2
DTYVNTIGHR	588.31	12.70	68.14	2	588.34	15.06	62.35	2
EFLDVIK	432.26	31.79	23.93	2				
NM(+15.99)ASLGGHIVSR	419.90	11.87	37.02	3				
QLDEVPASIDALTEVVAAVK					690.08	48.09	70.89	3
ETLMDLSTK					519.30	24.07	39.06	2
LGLSSLLR	429.78	30.57	38.94	2	429.79	29.03	37.98	2
AELDFGAITLN	582.31	52.94	26.68	2				
LEDLIVK					415.28	22.03	30.45	2
ESADPLGAWLQDAR					764.91	39.23	40.94	2

SLDFYTR	451.23	20.54	31.57	2	451.24	22.73	29.61	2
TLTAVHDAILEDLVFPSEIVGK	789.79	58.79	27.5	3				
FILEEIK	446.27	30.36	23.32	2	446.28	29.53	27.91	2
KLEDEGEQFVK					661.35	18.15	54.7	2
LNDGHFIPVLGFGTYAPPE(+21.98)VAK					788.78	40.28	24.1	3
AYVEANQMLGDLIK	782.93	44.76	45.43	2	782.94	37.86	66.73	2
AGFTTPHQVLGVTSK					514.96	22.12	59.1	3
EVAFWNE(+21.98)LLSR					693.38	41.97	25.34	2
PTLFLEVIQR	608.37	44.30	36.08	2	608.37	36.89	49.92	2
GN(+.98)NISSGTVLSDYVGSGPPK	650.67	37.45	29.99	3				
Q(-17.03)HGVTVIQYVGEILR					847.99	44.82	45.83	2
HVYPNIPK					484.30	15.16	35.56	2
TIIPLISQC(+57.02)TPK					685.91	31.01	34.58	2
AQTAHIVLE(+21.98)DGTK					702.90	15.99	26.7	2
YPIEHGIITNWDDMEK	654.33	33.91	57.61	3	654.34	30.89	48.05	3
DIVVQETMEDIDK					767.89	31.50	52.95	2
DDLLGFALK	496.29	45.79	39.01	2	496.30	38.20	41.97	2
Q(-17.03)AFQIGSPWR					586.82	38.33	23.68	2
SADVDSVVSGTLR	653.35	26.74	57.71	2	653.38	25.65	58.69	2
NHPEPTLTQLNDALGGNLC(+57.02)R	740.73	36.36	37.97	3				
Q(-17.03)GQYSPM(+15.99)AIEEQVAVIYAGVR	770.07	64.85	24.67	3				
SPLIIFSDC(+57.02)DM(+15.99)K	721.35	34.50	36.1	2				
ALEDNMSLDEIM(+15.99)K					762.91	27.88	48.19	2
TVIDYN(+.98)GER					534.27	16.30	27.6	2
LPMPNLK	406.75	21.21	29.46	2	406.75	23.60	24.66	2
ALMLQGVDLLAD(+21.98)AVAVTMGPK					1068.09	49.68	58.47	2
EEVVAMQSWLQGPLK					857.98	39.77	70.68	2
VLIVSEDPELPYMRPPLSK					728.43	36.97	33.52	3
SIEEVEVAPPK					599.35	21.65	43.27	2
AVGWNELEGR					565.82	24.75	43.51	2
LANILFTQELAR					694.92	35.30	57.13	2
EQID(+21.98)IIEGIK					590.35	29.88	23.81	2
NEGVPALYSGLKPTLIR	610.03	37.59	29.8	3	610.04	32.84	30.53	3
SLVQESLR					466.29	18.44	29.37	2
IDIPSFDWPIAPFPR	591.00	65.59	33.94	3	886.00	47.83	70.14	2
NLLLAEVINVIK	669.93	60.96	55.76	2	669.94	46.70	51.85	2

TLSSISTSTDAASVVHSTDLVVEAIVENLQMK	837.20	66.60	47.4	4	1115.97	49.65	46.67	3
HVYPAEPELQR					669.89	17.36	37.33	2
EAIQLIVR	471.30	25.29	33.52	2	471.31	26.36	33.15	2
DTHVVVYDGDDLGSFYAPR	709.36	40.11	37.72	3				
YSPGWDAK					462.25	16.13	40.83	2
DAFQNAYLELGGLGER	584.97	51.26	59.73	3				
ILAQATSDLVNAIK					728.95	34.14	47.53	2
ASEQALQLGSLFPPAEALQVGLVDQVVPEDQVQSTALSEMAR	1106.35	66.38	34.59	4	1106.39	49.15	49.8	4
VVAGVAN(+.98)ALAHR	589.85	17.25	53.43	2	589.86	20.44	55.48	2
LND(+21.98)GHFIPVLGFGTFAPR					660.69	40.78	27.26	3
EEIFGPVLAVYVYPDEEYK	754.06	58.92	25.54	3	1130.60	45.68	71.78	2
NPSTSLGPTLE(+21.98)PEEVVNK					967.04	28.64	33.29	2
QNQVQDNENVVNEYSSHLEK					792.09	24.80	33.97	3
PSYVLSGSAMNVVFSEDEMKK					773.41	35.71	52.94	3
E(-18.01)FTPVLQADFQK	702.87	49.43	37.54	2				
LYSEFLGR	492.77	26.26	40.06	2	492.78	26.49	35.43	2
AYNM(+15.99)VDIIHAVVDER	587.65	36.62	29.66	3				
EESVDVLAIDNTSVR					823.96	30.43	44.27	2
TIGLDVTEYEDNLK					805.46	33.77	42.41	2
GGLLM(+15.99)LENFIGGK	682.88	49.46	42.41	2				
IEGIQNMPNVR					635.86	24.36	42.96	2
LDQETAQWLR					630.35	26.50	53.18	2
ILENIQVFDFTFSPEEMK					1094.09	47.12	62.17	2
GLTPSQIGVILR	627.39	38.00	42.13	2	627.40	33.27	61.47	2
QDEVYYDSSILTPLLLR	675.71	59.80	54.41	3	1013.08	46.08	74.43	2
GLVLIAFSQYLQQC(+57.02)PFDEHVK					831.44	45.32	26.68	3
VDFVN(+.98)GLHTLC(+57.02)GAGDIR	615.65	37.90	25.01	3				
NVAGHYISPFHDIPLK	452.76	28.80	36.55	4				
DYVAQFEASALGK	699.86	42.38	60.4	2	699.88	35.41	70.59	2
MTNYDVEHTIK					675.87	17.54	50.28	2
TVADLQTVK					487.81	16.37	33.06	2
GEMMDLQHGSLFLQTPK	644.68	38.62	50.24	3	644.69	33.79	62.85	3
EGWPDTAYGVTK					662.36	25.19	47.95	2
GFFELFPSLSR	650.36	56.85	46.07	2				
NPILWNVADVVIR					754.96	43.06	63.27	2
KEYGGLDVLVNNAGIAFK	636.70	56.82	52.48	3	636.72	37.08	52.02	3

Q(-17.03)PVLNITNR	519.30	32.70	23.42	2				
AGVPPGVVNIVFGTGPR					818.96	38.71	45.37	2
QGQYSPMAIEEQVAVIYAGVR					770.44	45.47	53.07	3
AQFPSVSVEASGGVR	745.90	26.85	46.65	2				
HIDC(+57.02)AHAYQNEEEIGQVIR					761.41	23.44	38.91	3
DADTQNFVSFVC(+57.02)R					779.89	33.78	58.25	2
VDVVWIVGGSSVYK					754.42	37.10	46.46	2
LAILGIHNEVSK	431.93	22.72	35.63	3				
DLGATWVVLGHSER					770.43	32.30	74.48	2
LPLPPSYVPVM(+15.99)LSELSDR	677.06	58.29	46.75	3				
QAALVLDGLEAR	628.37	32.28	40.29	2				
ALLEVVQSGGK	550.84	22.36	43.33	2	550.85	23.97	38.47	2
VAIAVAFNQAIAR					672.40	32.52	43.83	2
NTVIATGGYGR	554.80	13.94	40.43	2				
QHGVTVIQYVGEILR	571.33	46.95	35.76	3				
FLSQPFQVAE(+21.98)VFTGHLGK					676.36	41.94	30.64	3
FLAEEGFYK	552.28	26.83	28.7	2	552.30	27.10	24.42	2
MNPQTAFFQGK	634.82	24.88	36.58	2	634.84	25.85	43.7	2
GDEELDSLIK					559.80	27.84	43.45	2
FFDEESYSLLR					703.37	35.41	34.6	2
A(+42.01)SLGHPATFGR	578.31	20.04	24.93	2	578.33	22.16	33.66	2
GTVLTLMR					445.77	25.68	37.51	2
IIEYLVPQDGPEQSLVDQPLR	803.77	49.53	36.47	3				
AVEH(+15.99)LDDLPGALSELSDLHAHK					596.58	37.76	23.66	4
EGMNIVEAMER					639.84	30.29	44.33	2
DVEIHGVTIPK					604.36	25.57	57.78	2
DGVSAAVITAELASFLATK	932.53	66.97	26.96	2				
QPGVVFIAAK					515.33	24.64	25.2	2
DLAIQLGMLDPAEKDEK	629.35	43.42	50.79	3	943.52	36.66	55.63	2
QFHLHWGSSDDHGSEHSVDGVK					493.04	20.18	32.43	5
YAIDLLSVALNR	674.40	52.45	37.7	2	674.39	41.64	58.2	2
EADLVFISVNTPTK(+21.98)					778.44	34.68	28.47	2
FAGGSLEMLQQMISK					820.43	41.70	87.56	2
VTAEVVLAHAGSGSSPR	546.65	17.55	52.72	3	546.66	20.60	43.31	3
HGSIIYHPSLLPR	497.30	21.36	62.4	3	497.29	22.28	68.82	3
EEIFGPVMQILK	702.39	53.83	43.78	2	702.42	43.28	55.07	2

LLC(+57.02)GLLTER					537.83	29.92	31.78	2
LVNELTE(+21.98)FAK					593.33	28.93	37.24	2
VTFLLVDK	467.79	31.98	22.44	2				
LPNVEFVGGLHC(+57.02)K	490.61	27.63	29.69	3	490.62	27.46	29.82	3
VIVVGNPANTNC(+57.02)LTASK					879.51	25.29	40.33	2
VFWENHDPTQGMR					539.61	25.09	47.77	3
EEIFGPVM(+15.99)QILK	710.39	44.83	40.12	2				
TAVDSGIALLTN(+.98)FQVTK	593.68	50.29	38.19	3	890.02	40.45	43.51	2
AISESGVALTSALVK(+42.01)	744.45	48.99	27.38	2				
AIDGLNSNMR	545.78	15.51	59.03	2	545.79	18.39	50.97	2
EEIFGPVLVVLETDTLDEAIK	777.43	66.63	69.86	3	777.45	49.69	78.89	3
GALALAEAVQR	549.83	24.74	53.71	2	549.84	25.64	53.3	2
IVNDNPYGN(+.98)GTAIFTTN(+.98)GATAR	757.04	36.68	32.95	3				
C(+39.99)ILPGLVDAHTHPVWAGER					704.39	39.38	26.99	3
EAYNLGVR					461.28	17.95	32.31	2
ASDVVLGFDELEGYLQK	628.33	58.13	61.98	3	942.02	45.26	61.14	2
LAAEDVIFIGPDTHAIQAM(+15.99)GDK	776.74	39.96	25.84	3				
ADPLGLQAEQDGVPVFK	892.49	42.55	56.94	2	892.50	35.70	63.02	2
YSLQYYMGLAEELVR					917.99	48.45	58.6	2
FLDGIYVSEK	585.82	31.71	33.98	2				
VYVVDVATEPR	624.35	23.96	69.71	2	624.38	24.33	52.76	2
NLEVTAYSPLGSSDR	804.91	31.93	53.72	2	804.93	29.48	63.82	2
DAGQISGLNVLR	621.86	32.80	48.64	2	621.87	30.00	56.91	2
YIYVADVSDK	586.81	21.05	44.1	2				
TGIIFMPGTTQM(+15.99)K	720.88	31.98	22.51	2	720.89	29.65	36.98	2
SLDDHSPLPGITIGDIGPK	644.69	42.35	52.56	3	644.70	35.94	62.46	3
Q(-17.03)EYDEAGPSIVHR					742.38	22.75	27.41	2
VALVYGQMNEPPGAR	801.43	26.77	61.98	2	801.44	26.18	64.31	2
FAPPQPAEPWTFVK(+14.96)	543.96	37.73	22.76	3				
YATALYSAASK	573.31	15.54	52.84	2	573.33	18.72	57.22	2
VIISAPSADAPMFVMGVNHEK					738.41	35.06	28.88	3
PGYGHAVLR					485.28	17.36	33.37	2
SLTDELALVH(sub D)VLEDK					841.49	45.75	43.06	2
DLMSFGSVWILR					712.38	47.92	58.6	2
LKDPDMVWDFW					726.38	45.87	27.84	2
SYELPDGQVITIGNER	895.97	40.37	61.92	2	895.98	34.44	58.22	2

C(+57.02)AVVDVPFGGAK	610.33	27.52	25.2	2	610.34	27.25	29.64	2
NLILVVR	413.79	26.83	26.8	2				
EYLDIDQMIFNR					778.91	41.94	67.16	2
Q(-17.03)ADTVYFLPITPQFVTEVIK	764.77	67.24	39.43	3	1146.66	50.30	27.18	2
GELSGHFEDLLLAIVR	590.34	60.10	44.15	3				
FVTTEFEPC(+57.02)FDAADFIR	689.02	56.08	47.32	3	1033.02	44.14	37.64	2
LLVVSNPVDILTY	723.42	62.95	37.64	2				
ALQASALAAW(+31.99)GGK	638.36	27.72	42.18	2				
IAQFLSDIPETVPLSAVNR	690.73	52.38	47.78	3	1035.61	42.05	62.31	2
ETTDTDTADQVIASFK					871.47	32.46	61.01	2
VAQWMIQQPHK					455.92	20.34	58.43	3
AVVLAANHFGR	577.84	16.10	48.05	2	577.84	18.41	52.19	2
TYLAALETLDN(+.98)GKPYIISYLVDLDM(+15.99)VLK					1063.59	49.73	35.89	3
INLDALITH	505.30	38.19	32.17	2	505.31	33.92	40.2	2
QSVESDIHGLR					620.84	17.15	51.06	2
AYPPTSLSR					496.27	16.90	23.41	2
VM(+15.99)EETFSYLLGR	730.87	39.03	43.82	2				
VLQLYPSNK					531.32	21.43	35.19	2
SVNDIVVLGPEQFYATR	636.69	47.55	55.5	3				
YFPHFDLSHGSAQVK	578.30	27.81	38.15	3				
Q(-17.03)SVELPETHQMLR					775.91	28.74	29.68	2
LGLDFPNLPYLID(+21.98)GTHK					968.05	44.01	30.96	2
WPDFQTVVIR	630.85	43.85	33.06	2	630.86	37.38	32.92	2
TGPAASTLSDGAAAEA(+1.00)LVESSEVAVIGFFK					1448.83	50.00	32.53	2
IPHFGYC(+57.02)DEVDLTELVK	679.03	46.54	23.35	3				
GLN(+.98)SESITEETLK					711.38	25.57	42.04	2
YVWLVYE(+21.98)QEGPLK					823.45	37.87	32.41	2
LSGLPSLLTR	528.83	36.05	25.79	2	528.83	32.49	37.35	2
VLC(+57.02)GGDVFVPEDPK					766.43	28.28	48.62	2
GIIINISSVADR	629.38	35.98	51.15	2	629.39	32.60	44.69	2
LGTPVLQALGDGDFVK	815.47	46.89	59.73	2	815.49	38.95	59.08	2
PGVAIADFVIFPPR	749.94	57.23	48.54	2	749.94	44.13	65.95	2
LVQDVANN(+.98)TNE(+21.98)EAGDGTTTATVLAR					861.80	26.27	28.28	3
DAQLFIQK(+21.98)					492.78	22.57	25.25	2
ISYTGELGWELYHR					575.32	32.96	31.69	3
VLGTSVE(+21.98)SIMATEDR	543.94	34.97	38.37	3				

LNVKPLAR	455.80	11.94	32.65	2	455.80	13.89	30.84	2
HLVDE(+21.98)PQNLIK					664.40	22.39	27.31	2
FDEFFSAGC(+57.02)APGSPR	822.88	33.55	38.07	2	822.90	30.42	54.23	2
ISLGDPAAVFR	573.33	38.47	31.81	2	573.35	34.00	47.74	2
FAVYLPPK	467.79	26.98	28.24	2	467.78	26.58	41.44	2
VFGLDIQGR	502.79	31.44	31.43	2	502.81	29.69	42.53	2
GTDELLGVMDQVTIINSTLGK					1102.62	46.98	69.77	2
FDLGQDVIDFTGHALALYR	717.72	63.73	61.06	3	717.74	48.21	61.79	3
QQNFPVFSR	561.80	23.61	35.99	2	561.81	25.16	39.92	2
KINLDALITHSLNLDK					603.36	36.02	57.2	3
VPTPNVSVVDLTC(+57.02)R	778.94	34.82	45.6	2	778.95	31.01	47.41	2
TKPYIQVDVGGGQTK	530.97	16.22	25.38	3	530.99	19.60	49.7	3
VLVSLSAGGR	479.79	19.07	42.83	2	479.80	20.90	47.83	2
SC(+57.02)AFAPADVTSEK					691.86	21.05	40.9	2
LHVDPE(+21.98)N(+.98)FK					561.29	19.41	24.99	2
MLEMDPQK					496.26	17.86	34.23	2
IPWFQYPIIYDIR					862.47	46.72	61.44	2
LTGTIQN(+.98)DILK	608.86	25.87	37.48	2				
TPVTDTATGAVK					580.85	14.60	47.69	2
PALAQPLIQNVK	646.41	27.04	39.11	2				
LTPTHYLTK					537.33	15.54	28.86	2
YYTLEEIQK	593.82	23.61	53.71	2	593.83	24.58	47.21	2
NFLEMHQL	516.26	32.08	39.5	2	516.27	31.01	30.74	2
Q(-17.03)IFLGGVDR	494.28	42.84	25.55	2				
SEVTFLAPVTRPDK	520.64	25.70	41.65	3				
DQFPEVYVPTVFENYVADIEVDGK	925.15	66.51	32.83	3				
TLHSLLDLLNENFNR					600.34	43.38	45.79	3
FAAFEEPELLAQDIR	583.66	50.02	35.92	3	874.98	41.31	40.44	2
VLITTDLLAR	557.86	36.35	35.99	2	557.87	33.19	35.27	2
FLFGIPYPDSDVLFR					893.49	48.30	43.51	2
DILTAIR					401.26	24.97	29.69	2
VLLVSPELQAAVEEVLPSLK	712.11	66.58	54.99	3				
LPFPPSYVPVM(+15.99)FSELSDR	699.71	55.53	51.7	3				
AAD(+21.98)NIGYPVMIR					671.36	29.37	30.7	2
LEEMLKPLVEEGLR					552.67	33.42	56.55	3
SIEEVE(+21.98)VAPPK					610.34	21.70	30.84	2

NSYLEVLLK	539.82	39.41	50.46	2	539.84	35.26	61.44	2
TQDVNYMFGIVGIPVTE(+21.98)IALAAQEVGIR					1009.57	50.54	48.32	3
WLPVGPHIM(+15.99)GK					417.57	23.74	28.73	3
AC(+57.02)ADPAAGSVILLENLR					885.49	39.10	54.33	2
IVGDVAYTEAK					583.35	18.52	42.45	2
ELEEIVQPIISK	699.42	37.68	50.54	2	699.43	32.86	54.15	2
IDYIAGLDSR					561.82	27.67	44.06	2
LLQAATNYR	525.30	14.29	32.22	2				
SEID(+21.98)LLNIR					547.82	33.24	29.61	2
LLHDSGLNVIVLEAR	550.33	35.99	43.04	3	550.35	32.52	35.11	3
FYTEDGNWDLVGNNTPIFFIR	840.10	63.20	45.92	3	1259.67	47.77	67.57	2
FAPPQPAE(+21.98)PWTFVK					818.93	36.48	24.3	2
TLDPM(+15.99)AIFFTSGTTGFPK	649.68	52.72	42.48	3				
GTFAALSELHC(+57.02)DK	483.58	23.04	28.14	3	724.88	24.77	48.14	2
IPSAVGYQPTLATDM(+15.99)GTM(+15.99)QER	766.72	28.30	43.93	3				
SATQSAEITIPVTFQAR	607.34	38.58	33.71	3				
GQAGVMGFP(+15.99)GPK					581.32	22.35	40.48	2
NIVEAAAVR					471.80	17.79	28.5	2
QEFGWILPLFM					690.88	51.11	23.5	2
YLPAFENVLK	597.33	38.82	42.82	2	597.36	34.70	42.31	2
VEQIAAIAQELNELDYYDSHNVNTR	727.12	52.75	60.48	4	969.17	42.70	60.67	3
IIKPC(+57.02)N(+.98)HVLSLSFPIR					632.35	32.74	40.92	3
Q(-17.03)GEIFLLPAGVPHSPQR					915.03	39.13	31.51	2
EFVEE(+21.98)FIWPAIQSSALYEDR					817.76	48.38	32.96	3
APNDFNLR	473.75	15.76	50.76	2	473.76	18.62	46.4	2
SLYSFIK	429.25	28.58	26.01	2	429.25	27.86	28.92	2
TVAGIIVEPIQSEGGDNHASDDFFR					892.16	36.68	28.3	3
EAD(+21.98)DIVNWLK					612.82	36.34	40.48	2
GGIVDEGALLR					550.35	27.72	38.23	2
FFPLER	404.73	26.18	26.09	2	404.74	26.53	27.4	2
DVVDYIIFGTVIQEVK	613.36	66.02	75.46	3	919.54	48.99	67.71	2
ILTSLIEK	458.80	23.16	29.73	2	458.81	24.88	28.18	2
YAM(+15.99)QM(+15.99)EQLN(+.98)GVLLHLESELAQTR	903.14	53.40	30.59	3				
LEQFVSLLMASIPVSGHTG					662.68	48.04	43.88	3
DGVVEITGK					459.26	17.78	46.69	2
NSLYLGPILK					559.35	32.26	41.71	2

KGLAMVPLK					478.81	19.86	38.53	2
HIDC(+57.02)AHVYQNEEHVGQAIR	569.80	14.16	48.33	4				
NSAFPTGTIVLAPSGWTTH					979.04	40.01	48.07	2
TSAC(+57.02)FEPSLDYM(+15.99)VTK	882.92	31.98	28.5	2	882.93	29.41	41.64	2
HNFYHNPELTPTK					533.29	16.16	50.25	3
DLLEVADILEK					629.39	43.90	29.31	2
EEIIPLAAEYDK					695.91	31.70	40.09	2
MFLLQGAQMLQMLEK					890.96	47.20	63.97	2
FLTVLC(+57.02)SR					498.27	26.14	23.88	2
HIEIQVLGDK	576.34	19.74	37.56	2	576.34	22.77	54.54	2
WTSPQVIK					479.80	21.30	28.49	2
AMLSTGFK	427.74	16.71	39.97	2	427.75	20.06	41.31	2
TPGLSPAEEQLALK					727.45	27.48	57.71	2
ALGGASGGYTTGPGALVSLLR					959.51	40.76	76.3	2
ILLANFLAQTEALM(+15.99)R					860.48	44.11	54.56	2
LDMPYLDAVVHEIQR	600.33	54.10	34.02	3	600.34	43.52	52.73	3
AIFQGIAAK	459.78	20.89	26.04	2				
LWATNLDPELVRPTLER					675.07	36.24	24.7	3
AILNYIATK	503.81	25.16	37.9	2	503.81	25.47	43.48	2
DEIATMETINN(+.98)GK					718.85	23.71	42.43	2
GSITSVQAIYVPADDLTDPAPATTFAHLDATTVLSR					1239.06	44.61	25.39	3
GLVGEIIK	414.77	24.44	28.62	2				
LTAVPTLLK	478.32	29.16	30.38	2	478.32	27.63	37.04	2
TGLSK					505.32	23.11	24.39	1
LPGISETAMIFAGVDVTK					925.03	44.13	61.02	2
IAQFLSD(+21.98)IPETVPLSAVNR	698.05	52.53	43.26	3				
VSKPTLNEVVIVSAIR	575.70	35.03	31.82	3	575.70	30.89	43.31	3
ADEAYLIGR					504.28	21.79	45.24	2
GFAQPVAVFLGVPF	724.91	66.91	45.02	2	724.91	49.84	39.03	2
ILQYISHR					515.30	16.12	33	2
AFMTLVDELIAEQK	536.64	58.75	51	3	804.46	46.19	77.62	2
EILNISGPPLK	590.87	33.50	47.45	2	590.88	30.82	41.88	2
VS(+27.99)LELGGK	415.75	16.96	22.44	2				
LLQGAQMLQMLEK					751.93	38.49	44.49	2
STLLINQPQYAWLK					837.97	36.93	30.39	2
T(+42.01)DQAAFDTNIVTVTR	847.44	43.91	39.34	2	847.46	35.82	42.81	2

RPQFLGVAEQLHNEGFK	493.28	29.35	49.68	4	657.38	28.78	51.27	3
VALTGLTVAEYFR	720.42	48.79	63.22	2	720.42	39.29	69.59	2
SGTIFDNFLITNH(sub D)EAYAEEFGNETWGVTK					1097.58	48.80	24.25	3
STWLILHYK					580.83	28.77	43.69	2
DFPDFNPSQDAETLYNAMK	735.02	60.83	31.51	3	1102.03	45.86	68.85	2
FSLDQLITHVLPLEK	585.02	62.32	43.3	3	585.02	46.15	53.09	3
LLEEWTYVSK					634.36	30.91	48.27	2
VQEEAHC(+57.02)LVEELR					537.97	23.75	29.97	3
VIIPSHLAYGK					599.37	22.50	36.82	2
ALSLDPDSGELK					622.87	25.61	24.19	2
VYNEAGVTFT(+21.98)	561.77	28.43	28.49	2				
IFNLYPR	461.76	27.80	28.19	2	461.76	27.45	35.83	2
DELHVVEAEAMNYEGSPIK					711.05	36.29	52.48	3
HELLPNLNDLVAVGR	554.00	44.93	57.74	3	830.50	37.75	53.65	2
VAAIDALNDGELQK					728.93	26.72	50.9	2
LGFEPLAYK	519.30	31.73	52.7	2	519.31	30.22	51.81	2
AVAGIFN(+.98)AK					446.27	22.08	31.23	2
VISTM(+15.99)SVGVDHLALDEIK	648.36	34.80	29.33	3				
PVNYFAEVEQLAFDPSNMPPGIEPSPDK					1030.21	48.51	35.94	3
NKFPGDSVVTGR					638.86	17.52	29.91	2
NPVNR					599.27	56.14	26.65	1
WVAPFTSGDK					554.30	26.46	28.16	2
LSLC(+57.02)GEESFGTGSDHIR					622.33	25.46	39.55	3
VETSDEEINDLHQR					562.28	16.52	63.27	3
FFYGNAIER	558.80	24.36	31.79	2				
LN(+.98)DGHFIPVLGFGTYAPPEVAK	781.76	53.80	34.92	3	781.78	42.73	29.11	3
LEDTLWTGLTDTHVQMPM(+15.99)					1052.53	41.49	34.81	2
EGDVLTLLESER					680.90	36.96	41.82	2
HLVDEPQNLIK	653.38	20.29	60.01	2	653.39	22.58	59.39	2
ALSPDMLATD(+21.98)LAY					701.87	42.91	36.8	2
LLLIGDSGVGK	536.34	30.53	28.6	2	536.35	29.18	35.31	2
VPAENVLGEVGGGFK	736.90	35.98	55.59	2	736.92	32.26	65.82	2
FYTEDGNWDLVGNNTPIFF(+21.98)					1136.06	49.49	26.42	2
QFLLAAEAIDDIPFGITSNSDVFSK	900.15	65.76	35.99	3	900.17	48.86	53.53	3
EQADFALEALAK					653.38	32.50	41.53	2
M(+15.99)IFVPSSLNFLSLMEK					936.50	48.02	29.6	2

NLLEWLNK					515.30	36.21	40.92	2
ILMAAPGMAIPPFIMNTLEK					1079.57	48.37	33.9	2
AQIHDIVLVGGSTR	489.29	22.29	30.1	3				
SGPPVSELITK	564.33	22.81	39.81	2	564.34	24.53	53.03	2
LGDVYVNDAFGTAHR	545.61	26.63	68.14	3	545.63	26.43	52.23	3
IDGITIQAR					493.81	22.11	46.93	2
SEGGFIWAC(+57.02)K					577.80	27.70	46.78	2
IISYWR					419.24	23.01	24.93	2
TITLEVEPSD(+21.98)TIENVK					905.51	31.55	29.22	2
EAAVLLQAEDR					607.84	22.17	48.09	2
FFESFGDLSTAD(+37.96)AVMNNPK	710.00	48.94	45.69	3				
VGDYGSLSGR	505.76	13.48	40.33	2	505.79	15.79	43.97	2
NELESYAYSLK	658.84	29.86	47.69	2				
NPWSMDENLMHISYEAGILENPK					896.80	42.63	60.36	3
DNEVTLFK					483.28	24.99	40.98	2
AEYLGSC(+57.02)LLHK	430.91	21.47	25.77	3	645.86	23.61	30.45	2
LLEEGSKPEEIDEVLEEFGFK	813.10	61.64	37.97	3				
EITALAPSTM(+15.99)K	589.32	15.80	38.44	2	589.33	18.46	34.03	2
ALELDSNLYR					597.34	27.70	43.27	2
LGEHNIDVLEGNEQFIN(+.98)AAK					738.09	31.16	34.16	3
LEQFVSLLMASIPVSGHTG(+21.98)					1004.51	48.07	34.73	2
LQDWALQQPHK					455.28	20.39	54.04	3
TALYVANLIK	553.34	35.04	35	2	553.35	31.79	37.45	2
IYFAGTETATHWSGYMEGAVEAGER					911.79	36.83	69.33	3
FSEAHSEFLK	597.81	38.43	46.55	2				
LLVVYPW(+31.99)TQR					653.86	49.81	34.02	2
AIVDRPVVIGGK					612.41	20.13	50.18	2
VGNPWDSNVLYGPLHTK					633.02	33.28	52.13	3
IQTVSFAGR	489.78	16.99	23.26	2	489.80	20.04	29.62	2
MLAAYLYEVSQLKD					822.46	40.40	50.88	2
IINEPTAAAIAY	623.84	35.38	31.35	2				
DAISAQYPVVDHEFDAVVVGAGGAGLR					905.16	41.03	43.16	3
DFLIPVAWYEDR					762.41	45.58	41.96	2
PGGSFSIEEVEVAPPK	821.94	35.97	40.63	2				
MGFPEAAR	439.72	15.99	34.95	2	439.75	19.08	32.57	2
GTGIVSAPVPK	513.31	16.61	26.78	2	513.33	19.74	36.13	2

VNPDTGYINYDQLEENAR					1056.06	29.92	37.58	2
KESYSIYVYK	427.24	17.18	25.23	3	640.36	20.69	48.59	2
VFQSSSNYAE(+21.98)NFIQSIISTVEPAQR					946.48	49.43	44.3	3
LQTVILD(+21.98)VTK					576.36	28.49	38.95	2
TLPQAEALDR					557.33	19.55	38.95	2
YGGAEVDELGK					569.29	18.54	63.43	2
NHLLHVFDEYK	472.26	21.87	61.76	3	472.27	24.24	69.39	3
QLIQGGLADC(+57.02)VLALGFEK					966.56	44.71	46.46	2
IGAFSYGSGLAASFF	747.88	64.12	36.66	2	747.88	48.18	52.99	2
EGLYITEEIYK					679.40	31.95	44.1	2
EPFTFPIK	489.78	34.46	23.32	2	489.79	32.14	23.98	2
FWLFGGNER					563.29	36.85	41.36	2
QFSEETFEER					651.31	21.55	37.73	2
AAVQQLQAEGLSPLFHQLDIDDR	855.47	51.16	53.97	3	855.49	41.23	40.49	3
LAMQEFMILPVGAENFR					656.03	46.15	43.78	3
TVIVTPSQR	500.80	12.67	33.37	2				
FITATSAAR	469.27	12.57	28.9	2				
VEILAN(+.98)DQGNR					615.33	17.23	27.27	2
LAVDAVIAELK	571.36	44.49	27.22	2	571.37	37.83	45.87	2
YVLGNPLTPGVSQGPQIDKEQYEK	887.49	33.84	34.71	3	887.51	30.31	26.94	3
EAILELITS(+27.99)R	586.85	44.74	25.43	2				
AAVTAFW(+31.99)GK	491.76	16.42	27.68	2	491.77	23.90	37.85	2
ADIQLLVYTIDDLIDK					924.54	49.91	40.97	2
TNEQIHQLVAAYK	505.62	20.05	63.35	3	757.94	22.39	69.69	2
DLYANTVLSGGTTMYPGIADR	739.06	48.45	72.75	3	1108.10	38.59	47.94	2
EAYPGDVFYLHSR	518.60	29.14	35.67	3	518.61	28.25	60.45	3
LLKLDLK	421.78	27.12	22.8	2				
NQVAMNPTNTVFDAK	825.41	26.87	25.43	2				
YVISAVPPVLGMK					687.40	36.20	46.89	2
VIPLYAPQC(+57.02)GK					623.35	23.59	31.02	2
EVLDNLDSHLK					641.88	23.36	27.56	2
SFFEPER					456.25	21.42	30.41	2
VC(+57.02)NLIDSGTK	553.80	14.12	31.21	2				
VEIIANDQGNR					614.85	15.84	39.61	2
IVIFTQGR	467.29	21.04	24.67	2	467.29	22.58	35.21	2
ISVAGVTSGNVAYLAH	779.94	35.78	46.41	2	779.95	31.63	57.65	2

FVAVTSTN(+.98)AAK	555.30	13.99	35.53	2				
LSAIQHDQPM(+15.99)KPLDR	441.99	11.71	33.91	4	442.00	14.37	36.08	4
YQVQTQENYEAFMK	889.93	30.44	61.48	2	889.95	28.48	57.09	2
VLNNMEIGTSLFDEEGSK	661.67	43.66	31.54	3	992.01	36.83	49.13	2
LAQDGAHVVVSSR	446.93	11.74	58.17	3				
QQFDLENK					511.26	16.80	37.31	2
NTQIIIQEESGIPK					785.48	26.57	51.36	2
EALKDEYDDLSDLTPAQQETLSDWDSQFTFK					1212.64	44.36	26.62	3
DYLHLPPEIVPATLR	578.68	47.60	35.81	3				
FVSGVLSDQMSAR					698.88	26.27	56.23	2
VSPETVDSVVVGNVMQSSSDAIYLAR	908.49	56.44	63.72	3	908.50	44.10	78.5	3
FAGGSLEM(+15.99)LQQM(+15.99)ISK	836.42	35.14	37.62	2				
QVITLLNELK	585.88	38.88	38.53	2	585.89	34.96	45.01	2
IIGVDINK	436.28	19.14	31.51	2	436.29	21.49	30.78	2
PMFVVNTNVPR					637.35	27.85	38.17	2
GVVNVLPGSGSLVGQR	769.95	34.55	55.69	2	769.96	30.15	50.89	2
VLVEPDAASGVAVM(+15.99)K	751.41	23.80	46.04	2	751.43	24.09	44.42	2
DEIDHLLQSTGQK					742.42	26.29	47.37	2
NPVNYFAE(+14.02)VE(+14.02)QLAFDPSNM(+15.99)PPGIEPSPDK					1082.90	48.71	30.84	3
LTQSNAILR	508.32	13.73	42.56	2	508.32	16.52	50.1	2
GAAVELDLQR					536.32	22.65	39.64	2
LLLGEVDLSSMASIR					802.47	42.53	63.73	2
LPKPGLVASR					519.33	15.73	28.88	2
MTWISPVTLK					588.34	34.37	47.28	2
MMADEALESGLVSR					754.91	30.22	65.47	2
VVINVPIFK	514.84	39.38	24.14	2	514.84	34.65	39.53	2
IPEDEIWLPEPESVDVPAKPITTTFLQR					1074.29	44.18	40.39	3
DFLLQQTMLR					632.87	36.72	45.12	2
EYLISLNPENLTILEK					945.05	44.54	54.39	2
MAGTLPEYR	519.27	16.77	48.68	2	519.28	19.71	43.99	2
LGEHNIDVLEGNE(+21.98)QFINAAK					745.07	31.98	48.67	3
IKENIQVFDFELTPEDMK	732.71	46.54	48.1	3	732.74	38.89	62.04	3
YIQDITASVLK	625.87	33.52	48.79	2	625.88	30.67	49.68	2
FSIDVFEETR					621.85	35.29	46.64	2
LPVQLQR	427.27	15.77	24.29	2	427.29	19.01	25.4	2

TLADVLVQEVIK	664.42	53.35	33.06	2				
DIETKPIVIGLINMPPPFK(+21.98)					715.41	44.28	33.57	3
SGELAVQALEQFATVVEAK	664.05	64.20	78.94	3	995.58	48.51	82.83	2
DIIALNPLYR	594.35	43.36	47.64	2				
APLAIAAAVEQALK	683.43	52.62	59.99	2	683.43	42.09	69.69	2
Q(-17.03)EYFVVAATLQDVIR	867.97	66.77	41.23	2	868.00	49.78	46.77	2
ATGYPLAFIAAK	611.85	38.11	41.53	2	611.85	33.66	56.63	2
GC(+57.02)DVVVIPAGVPR	669.88	31.57	28.79	2	669.89	29.54	44.03	2
IQYHEHVTEGFENMPAAFIGLLK	661.86	51.34	51.12	4	661.87	42.17	50.34	4
QTFQELFK	520.79	29.29	29.45	2	520.80	28.99	40.56	2
VEISYTPSDGSPK					690.38	19.96	46.41	2
LQLWDTAGQER					658.86	26.47	55.06	2
LKDVHYFVLEK					464.29	22.88	48.39	3
TGKPNPDQLLK	404.24	12.83	56.15	3	605.88	16.22	41.84	2
IM(+15.99)LLNTFLK					554.83	35.99	32.65	2
TDVFIRPK	488.30	13.04	29.28	2				
MNQDPVGDEVLHFLLK					619.02	43.99	43.98	3
VAGGPQM(+15.99)IQLSLDGTR	829.95	30.19	31.72	2				
SDVHPEYGSR					573.80	16.77	29.82	2
GFIGPGVDVPAPDMSTGER	951.48	40.56	64.15	2	951.49	34.36	58.16	2
IAAFADAAVE(+21.98)PIDFPLAPAYAVPK	827.13	61.19	25.38	3	827.14	46.52	56.25	3
GTTLITNLSSVLK	673.90	43.78	49.69	2	673.91	37.18	49.17	2
DINQEVYNFLATAGAK	585.32	59.59	35.17	3				
LTGSLSGWTSPK					617.34	24.71	48.01	2
GLIPQLIGVAPEK	667.92	46.17	50.42	2	667.93	37.72	54.66	2
EFT(+27.99)PVLQADFQK	725.87	36.94	36.44	2				
IQVLGSLVSLEMGK					737.44	39.88	54.92	2
VLFGEITR					467.80	26.74	23.16	2
V(+42.01)NPTVFFDIAVDGEPLGR					994.55	50.42	31.63	2
S(+42.01)TGTFVVSQPLNYR	805.93	43.42	31.71	2				
YANLLVGSPSALADQATER	659.36	39.51	56.19	3				
LLGNVLVVVLAR	633.43	53.32	48.76	2	633.43	43.40	66.54	2
DFMYVSQDPK					615.32	24.42	41.26	2
DKPDNFQLFQSPHGK	440.24	19.88	35.17	4	586.65	22.68	63.89	3
SVTEFN(+.98)GDTVTSTM(+15.99)TK					867.95	20.84	38.5	2
NFAEPGSDVYLR					684.38	26.42	29.02	2

LVDSTTSYGLTGAVFAQDK	658.36	39.30	55.57	3				
TVTTLVNLVETYIVK					847.01	48.48	69.58	2
VLGSQEALHPVHYEEK	459.76	14.83	55.01	4	459.77	18.23	37.33	4
GDFELQGYAFEAAAEQQR					1015.55	35.45	74.27	2
ATDFVVPGPGK	544.30	20.97	62.22	2	544.31	22.93	60.43	2
ILGPLSYSK					489.30	23.84	25.63	2
APPSIFAEVPQAQPVLVFK	680.07	61.12	45.16	3	1019.60	43.31	58.17	2
NFLAVLR					416.76	30.34	26.57	2
Q(-17.03)HILPVEK					473.80	21.19	25.48	2
DNFHGLAIFLDTYPNDETTER	823.40	51.53	44.21	3				
SIFLVAHR					471.79	20.18	28	2
IISYLVDLDM(+15.99)VLK					769.46	44.48	27.9	2
VPVDVAYQR	523.79	15.75	45.85	2	523.81	18.42	43.85	2
VELVPPTPAEIPTAIQSLK	668.41	53.10	35.39	3				
SMPTSGALDR					517.78	15.68	35.67	2
ENIILGPGR	484.79	19.00	32.7	2	484.80	21.48	36.1	2
LGSQTTVVLHGYEVVK	577.34	25.59	25.43	3				
EMEEFVQSSGEHGIVVF					962.49	44.47	35.62	2
RPLFLAPDFDR	449.59	31.79	28.29	3	673.90	30.62	54.01	2
AVDIPHMDIEALK	484.60	36.51	38.95	3	484.61	32.70	34.44	3
DLLNALNEVINNPSYK	606.35	63.19	36.87	3				
SQIDELYSTIK	648.86	33.07	48.11	2	648.86	30.03	51.12	2
TFVNITPAEVGILVGK	829.50	59.06	42.32	2	829.52	42.28	55.87	2
AVLVDLEPGTMDSVR	801.43	38.58	26.78	2	801.44	33.60	45.8	2
AIVTTDTLAPEVESVAPEC(+57.02)PSLK	809.78	43.87	40.05	3	809.79	36.23	30.87	3
VPATNLILGEGR	620.37	28.06	38.78	2	620.38	27.53	53.64	2
IMNTFSVVPSPK					660.37	28.82	55.47	2
SNIDNMFESYINNLR					915.47	44.10	71.83	2
LVALLNTLDR	564.35	37.31	33.98	2				
IGVPLSVAVK	491.82	29.80	37.35	2	491.83	27.83	31.9	2
LLVVYP(+31.99)WTQR					653.87	32.36	26.81	2
MTGSNFDASSFNPHGISTFTDEDNTVYLLVVSHPDVK					1011.28	43.08	50.61	4
GTIEILSDVQLIK	714.94	48.34	52.21	2	714.95	40.01	58.11	2
FQLVDSR	432.74	17.08	37.04	2	432.75	19.75	33.08	2
AIAEELAPER					549.81	19.63	45	2
LVAHDC(+57.02)PNYFR					464.58	18.52	39.4	3

FSLDQLITH	537.30	43.87	25.24	2				
LC(+57.02)AATAAILSKPEDR	539.31	20.46	46.79	3	539.31	22.64	38.17	3
TDMENEFVIIK					669.88	32.61	53.84	2
GATIQELNTIR					608.36	24.04	36.58	2
LVQFQAPH	470.27	19.12	26.01	2				
VLSGDLGQLPAK	599.36	23.74	49.71	2	599.37	24.47	56.66	2
LPAVVTADLR	527.83	27.38	49.7	2	527.84	27.24	54.76	2
VM(+15.99)VDANEVPIQK					679.90	21.41	37.77	2
FILDGWHEMDSK					493.26	32.13	45.68	3
APNSPDM(+15.99)LEIEFK					753.91	29.43	39.19	2
SSGLPPGAAAVALLPVTLDTPVNR	772.79	57.99	32.51	3	772.80	44.31	64.53	3
PAAVPHGAGYELLIQK	555.33	26.32	39.22	3				
LVILM(+15.99)DPFEDDLKK	564.65	40.90	32.41	3				
ILTFDQLALDSPK					730.94	37.32	53.53	2
NSPDMLEIEFK					661.86	33.04	32.51	2
DELADEIANSSGK					674.83	22.98	60.68	2
GIGGIFFDDLDSPSK	784.39	48.27	55.25	2				
FYGEPVIK	476.77	21.25	24.61	2	476.78	23.52	27.51	2
WIPQN(+.98)DLLGHPK					473.61	28.28	28.87	3
PVYSHVDPK	521.28	16.17	33.65	2	521.30	19.93	36.42	2
DYSEMYVTC(+57.02)AR					697.84	23.99	43.56	2
AQYDELAQK					533.28	15.05	41.48	2
HLTDAFLD(+21.98)EVK					655.37	27.96	38.23	2
HYNATFKPGGLEGK	506.94	12.32	48.3	3	506.96	15.72	60.99	3
KFDVNTSAVQVLIEHIGNLDR					790.12	44.01	52.16	3
ILSHAVALTR	540.84	13.52	26.13	2	540.84	16.47	38.53	2
VGLELIASENFASR					753.44	35.42	49.12	2
IPFASIASR	481.29	25.46	41.45	2				
KEWDLKPVADR					452.93	17.97	31.47	3
VETSDEEIN(+.98)DLHQR					562.61	15.67	24.05	3
LHTVYQSVELPETHQMLR					727.75	27.24	57.14	3
TLVYGGIFMYPANK					787.40	37.13	63.84	2
ELFLTFVTSSR	650.37	54.02	46.46	2	650.37	38.56	54.6	2
EESVLLR					423.25	17.82	32.76	2
TAEVEC(+57.02)GDFYNTGDR					867.38	21.64	50.7	2
M(+15.99)C(+57.02)HPSIDGFTSR	475.22	15.18	42.31	3	475.23	18.86	34.5	3

Q(-17.03)LETLAQEK					521.81	27.15	30.41	2
TFAVQGFGNVGLHSM(+15.99)R	579.64	29.15	49.97	3	579.64	27.71	29.24	3
WTPSPLVEDLK					642.87	32.97	44.39	2
GLFIID(+21.98)PN(+.98)GVIK					654.89	39.92	36.49	2
GFFHGVR	410.23	13.18	30.68	2				
VVAVGYINEAIDEGDPLR	644.02	48.44	73.25	3	965.53	39.80	57.75	2
DYGVLLEGPGLALR	736.93	50.69	66.62	2	736.94	40.91	63.14	2
LFFSILR	448.28	42.85	25.09	2				
EANLAASFGK	504.28	17.79	33.9	2	504.28	20.50	48.4	2
DYAVQQYVR	571.30	22.47	53.59	2	571.31	23.28	50.05	2
ALTSELE(+21.98)ALGK					577.33	29.09	41	2
MSQYLESMK					558.78	20.62	48.59	2
IGVLDEGK					415.75	17.36	29.68	2
YGLLILM(+15.99)K	483.79	33.41	23.48	2	483.80	31.13	29.51	2
TSAC(+57.02)FEPSLDYMVTK	874.91	37.97	32.02	2	874.93	33.37	39.47	2
AVGDGIVLC(+57.02)K					516.30	21.95	29.49	2
AFDQGADAIYEHINEGK					626.67	28.24	23.73	3
FADGDVDAVLTR					639.86	27.87	54.84	2
KPLEALYGFDYFAR	563.98	58.23	50.66	3				
VSDLAGLDIGWK					637.37	36.06	64.49	2
IVGDQISFADYNLLDLLR					1033.09	49.09	59.78	2
FLHNPAADQGFVGC(+57.02)ALGSNIQR	791.42	48.04	25.95	3	791.43	30.81	39.7	3
DDGSWEVIEGYR					713.37	32.61	58.02	2
SEDYALPSYVDR					707.88	26.93	45.63	2
ATIDEEGYFWFLGR	852.43	58.44	61.08	2	852.45	45.57	64.55	2
ETLM(+15.99)DLSTK					527.28	17.94	34.46	2
FFESFGDLSTAD(+21.98)AVMNNPK	704.67	48.89	47.17	3	1056.52	39.19	40.6	2
GPLMMYISK					520.28	28.33	39.5	2
GVVDSDDLPLNVSR					743.43	29.38	60.01	2
IILDELHLR	561.35	32.46	34.51	2	561.36	30.53	43.73	2
GHYTEGAELVDAVLDVVR	648.36	55.19	48.51	3	648.37	44.66	63.52	3
SLLFVDIPAK	551.83	41.46	26.74	2	551.86	36.43	25.75	2
EGFNVSVVADPLFVLDNQAQAFR	846.12	65.44	30.91	3				
GASAINWTLIHGDK	494.94	26.83	53.63	3	741.92	27.28	65.03	2
AAVDAGFVPNDLQVGQTGK	629.67	35.42	69.16	3	944.03	31.25	54.48	2
ILDLIESGK	494.30	27.67	38.82	2	494.31	27.12	42.67	2

IIGLKPQGEPR	403.26	13.54	22.51	3				
LSGPR	529.33	23.69	26.12	1				
SEPIPESNDGPVK					684.85	17.35	41.4	2
LFSGATMASSR					564.31	19.54	40.2	2
LLVVYPW(+15.99)TQR					645.87	30.92	30.54	2
LWVAC(+57.02)YN(+.98)GGR					598.81	25.55	33.78	2
N(+.98)GGLGHMNIALLSDLTK					585.67	42.01	33.62	3
IVGYFVSGC(+57.02)DPTIMGIGPVPAISGALK					907.15	46.58	29.49	3
GYLAVAVVK					460.30	25.04	47.1	2
GYFVQTPEELQK	719.88	28.07	60	2	719.90	27.28	54.99	2
NDQVVTDLR					530.29	17.47	46.53	2
VVASGFDFAN(+.98)GISMSPDR					935.97	36.27	64.33	2
PENLSLVVHGPGDLR	534.97	28.54	55.86	3				
VTVDAPVSSVALR	657.39	27.33	45.91	2	657.40	26.71	59.79	2
GTGEMTQLLNSLC(-33.99)TAVK					866.48	43.59	38.29	2
VSPEEFTEIMN(+.98)QR					790.93	34.78	51.27	2
PAINVGLSVSR	556.84	25.59	39.31	2				
EVAQQAVDADVHTVGVSTLAAGHK	601.58	25.53	55.94	4	801.78	25.31	48.35	3
ALASLMTYK					499.29	25.55	48.32	2
VNDLFER					446.76	19.80	24.89	2
VPLGSVIK	406.78	17.71	29.94	2	406.78	21.05	38.68	2
LAC(+57.02)GVIGIAK	501.31	21.19	35.97	2	501.31	22.45	43.42	2
REDIFYTSK	579.81	13.44	49.22	2	579.83	16.29	44.81	2
LLPDGTTGFINQK(+21.98)					713.41	27.93	23.49	2
ELGEYGFHEYTEVK					850.96	25.43	48.13	2
IHAEALGYR	515.28	12.46	23.33	2				
IIGLDQVAGMSETAMPGAFK	679.37	53.68	22.85	3				
ELFSQIN(+.98)GLAGTSGK					761.92	30.45	44.32	2
VFAAGAD(+21.98)IK	457.25	15.03	26.34	2	457.26	18.12	28.88	2
ALMLQGVDLLADAVAVTMGPK					705.07	49.52	69.44	3
HQQTITIPAR					582.86	15.48	51.05	2
ILVWPMDFSH					622.83	41.93	29.32	2
IAEIFM(+15.99)R	448.25	19.62	25.49	2				
MSLLELVEILK					644.40	49.00	51.51	2
VSM(+15.99)VEPGYFR	600.80	19.48	38.07	2				
ESVNAAFEM(+15.99)TLAEGVK					856.47	34.15	48.97	2

SVDD(+21.98)FHLGTK					570.81	19.14	23.69	2
FIPEMVAGK					496.29	24.64	31.26	2
LDPTGAFEK					489.28	20.86	29.34	2
IQDALEITGTFK	668.37	34.24	44.81	2				
SNMIASALAQIPQK(+21.98)					747.41	34.58	36.42	2
LLLEYTDTNYEER					829.96	29.36	42.67	2
FAPPEPPESWSGVK					764.41	30.38	31.48	2
LIINSLYK	482.30	27.32	29.64	2	482.31	27.02	34.28	2
ADC(+57.02)TITMADSDLLALMTGK					1014.04	47.15	40.72	2
AELNEFLTR	546.80	27.83	38.79	2	546.81	27.88	45.52	2
LVSDEMVLE(+21.98)LIEK					770.43	43.87	42.92	2
VLEVGFGMAIAATK					703.91	36.25	73.05	2
QAPQTIHLPSGEILDVFDAAER	803.11	51.25	30.64	3				
VDDFLANEAK					561.29	22.29	32.07	2
YFAGTMAEETAPAVLER	619.32	36.96	67.71	3	928.48	32.62	74.76	2
ELLTEFGYK	550.31	32.73	36.4	2	550.30	30.56	36.58	2
GFLDTMLIEMAK	684.86	60.17	63.4	2	684.88	46.61	62.22	2
ILISLATGNR					529.34	26.32	47.8	2
KVVNPLFEK					537.35	19.45	26.66	2
EVGADFILQISNESPQEIAK	730.07	51.69	54.9	3	1094.60	41.24	57.89	2
TYDSYLGDDYVR					733.87	26.69	54.94	2
HVLQQFADNDVSR					764.91	19.46	60.82	2
MGLVDQLVEPLGPGVKPPEER					754.11	37.06	57.99	3
YYVGDTTD(+21.98)VLFEK					786.40	33.39	39.84	2
VQTLTLQD(+21.98)GLIPLEIR	611.03	54.25	23.33	3				
LAHE(+21.98)DPDYGLR					654.33	16.12	25.12	2

PTM: number in brackets indicates that the peptide is post translationally modified.

-10 logP: the peptide matching scoring schema of peptide identification involves matched peaks and their intensities, precursor mass error, enzyme specify, *de novo* sequence, and peptide size, etc. A statistical evaluation, -10lgP, is given for each peptide-spectrum match. Here 1g() is common logarithm with base 10, and P is the probability that a false identification of current search has the same or better significance.

M/Z: the precursor mass to charge ratio.

RT: retention time

Z: Charge

Table 3: List of proteins identified from RP-RP and IEF-RP fractionated samples using PEAKS v 6

Protein accession #	RP-RP Pooled Sample						IEF-RP 100 µg Sample					
	Score	#Spec	#Pep	#Uniq	%Spec	%Cov	Score	#Spec	#Pep	#Uniq	%Spec	%Cov
CISY							36.22	1	1	1	2.13	2.58
RAP1A							83.57	2	2	2	7.69	14.13
F1MV93	33.35	1	1	1	4.17	8.58	110.2	4	2	2	8.33	15.88
G3P	137.94	15	11	11	30.56	33.63	203.26	49	14	13	38.89	43.24
F1MJQ1	33.12	1	1	1	3.7	4.83						
F1N5F8	88.01	4	3	2	7.89	12.3	108.62	6	5	5	13.16	21.66
A7MBE8	57.18	2	2	2	4.76	6.51	69.95	2	2	2	4.76	6.51
E1BA13	48.53	2	2	2	9.52	18.1	116.55	11	5	2	23.81	35.24
EF1G	50.69	2	2	2	3.7	4.32	36.58	1	1	1	1.85	2.05
G1K193	37.61	2	2	2	8.33	6.27	105.52	7	4	4	16.67	26.2
GAMT							117.85	6	4	4	21.05	26.27
UBB	66.06	2	2	2	4.44	5.9						
F1MKA4	35.8	1	1	1	0.68	0.9						
F1N549	90.5	4	4	4	4.21	5.32						
H4	112.73	13	4	4	16	40.78	135.81	27	5	5	20	41.75
F1MU57							30.04	1	1	1	1.43	0.92
F1MTT7	127.39	7	6	6	16.67	29.37	156.53	23	10	10	27.78	50.5
H10	41.99	1	1	1	1.89	6.7						
G1K176	23.32	1	1	1	3.03	2.52						
F1MD70	70.3	3	3	2	16.67	10.31	89.04	5	2	2	11.11	7.73
E1BGC1	75.06	2	2	2	2.17	3.59						
LDHB	118.12	10	7	3	19.44	25.45	169.2	17	8	7	22.22	28.14
G1K179	34.62	1	1	1	1.96	3.7						
RS6	39.08	1	1	1	1.54	4.82	39.89	1	1	1	1.54	4.82
LEG1	63.34	2	2	2	15.38	17.78						
RS25	58.79	2	2	2	5.88	14.4						
F1N7Y0	22.75	1	1	1	7.14	8.08						
AL1A1	210.45	56	28	24	51.85	50.9	255.29	154	34	30	62.96	66.87
G1K117	133.84	10	7	7	21.21	22.55	152.41	13	8	8	24.24	31.16
IVD							104.59	5	4	3	9.3	11.74
O18736	134.07	10	8	2	13.79	20.04	161.1	31	12	3	20.69	23.44
E1BII3	28.55	1	1	1	2.5	7.05	55	1	1	1	2.5	8.33

PSME1							95.93	3	2	2	4.88	10.44
F1MNT6	89.58	5	5	5	12.5	12.5	157.92	15	8	7	20	21.08
RS24							42.3	3	1	1	2.78	9.16
GCSH	48.74	1	1	1	5.26	6.36	50.08	1	1	1	5.26	11.56
E1BJK3							219.66	69	24	3	42.11	51.61
A16A1							53.2	1	1	1	1.59	1.5
HSDL2	78.18	3	3	3	6.12	8.61	114.6	5	4	4	8.16	13.16
G1K150							59.73	3	2	1	4.88	4.22
Q3ZC57							88.78	10	3	3	10.71	18.89
G1K127	145.25	17	11	2	23.91	26.39	212.67	68	23	4	50	44.84
F1MRF5	142.42	8	8	8	12.5	17.45	113.8	11	7	7	10.94	12.17
ANXA5							42.65	5	2	1	4.88	4.67
F1MG20	133.97	11	7	5	21.21	25.86	156.14	29	10	8	30.3	35.83
LYSM							96.16	4	3	3	11.11	21.62
AATC	138.75	13	9	9	19.57	28.33	181.88	21	11	11	23.91	37.77
SPA32	86.02	4	4	4	9.3	10.95						
E1BL18	44.82	1	1	1	3.7	5.2	30.7	2	1	1	3.7	5.2
F1MTR1	173.07	16	13	13	6.47	10.61	179.22	10	8	7	3.98	6.68
Q29RS1	145.49	11	9	8	24.32	35.67	149.14	30	10	8	27.03	26.67
A1L5B6	55.32	2	2	2	4.76	7.48	42.65	5	2	1	4.76	4.67
TPIS	46.61	1	1	1	3.57	6.02	148.24	17	9	9	32.14	57.03
EFHD2	39.89	1	1	1	2.7	4.13						
G1K1X1	56.54	1	1	1	1.54	4.1	57.6	2	1	1	1.54	2.8
Q0PH99							59.81	4	1	1	4.17	5.98
E1BM87							62.31	2	2	2	9.09	13.26
5NTD	48.3	1	1	1	1.79	1.57						
LYSI	26.1	1	1	1	4.17	6.8						
F1N5L2							46.31	1	1	1	5.26	8.07
3HAO	131.22	9	7	7	21.88	30.42	160.43	20	10	10	31.25	54.2
RLA0	95.75	3	3	3	9.09	10.06	131.63	7	4	4	12.12	16.04
F1MWY9							63.54	5	3	3	13.64	23.24
F1MCN8	92.48	7	6	6	13.04	18.52	114.95	10	6	6	13.04	22.47
E1BH06							80.93	4	4	1	2.2	3.73
CASA1							41.39	2	1	1	4.76	5.61
ASSY	162.35	28	18	18	36	45.15	227.53	67	21	21	42	58.25
RS19	26.17	1	1	1	3.57	6.21						

BLVRB	99.21	2	2	2	10.53	18.45	135.02	6	3	3	15.79	27.67
ODBB							52.29	2	1	1	2.78	4.34
A3KN02	97.65	4	4	4	7.27	9.86	101.28	7	3	3	5.45	9.86
F1MX05	24.61	1	1	1	2.33	1.85						
NIT2							81.36	5	3	3	9.68	16.3
E1BEK0	71.66	4	3	3	9.68	14.89	118.68	4	3	3	9.68	15.27
1433Z	63.69	4	3	3	9.38	14.69						
E1BGW2	86.9	4	4	2	14.29	19.84						
F1N0E5	59.35	2	2	2	3.17	5.32						
THIOM	23.98	1	1	1	5	9.04						
A7MBE6	70.29	6	4	4	6.67	7.09	164.45	32	12	12	20	24.18
F1N632	58.71	3	3	3	7.14	6.37	31.58	3	1	1	2.38	1.98
F1MKG2	75.47	4	4	4	3.42	3.83	43.48	1	1	1	0.85	0.98
PDIA4	160.22	16	12	12	14.12	18.66	195.95	23	14	14	16.47	27.68
AAAD	123.19	7	6	6	13.64	23.81	188.26	15	9	9	20.45	34.59
F1MQJ8	32.73	1	1	1	2.56	8.7						
G1K205	77.92	4	4	4	13.79	25.17	34.87	2	1	1	3.45	6.8
MSRA	103.4	6	6	6	25	33.05	146.16	12	7	6	29.17	40.77
OCAD2							59.93	2	1	1	5.26	8.44
AT1A1	116.99	6	6	3	6	6.95	37.94	1	1	1	1	0.98
F1MUG9	133.63	14	13	13	20	25.94	172.08	14	10	10	15.38	19.57
NDRG2	103.1	3	3	3	12	13.17	86.49	3	3	3	12	15.97
AT1B3	48.09	2	2	2	7.14	6.45						
EF1D	56.14	1	1	1	2.78	4.29	74.47	3	3	2	8.33	10.71
GLPK5	38.71	1	1	1	2.13	1.7						
F1MM38	24.98	1	1	1	2.94	3.7						
Q5MYB8							143.59	38	10	4	20	18.05
ITIH1	62.17	2	2	2	1.98	2.87	38.83	1	1	1	0.99	0.88
F1MCZ6	32.76	1	1	1	4.17	3.27						
INPP	33.06	1	1	1	2.56	3						
G1K1S2	125.48	9	6	6	20.69	23.37	203.94	26	12	11	41.38	49.04
GLYAT	130.45	17	10	9	34.48	36.27	208.29	68	16	1	55.17	54.24
E1BFV1	65.72	3	3	3	6.25	6.02	53.63	2	1	1	2.08	2.06
GDIB	153.2	11	9	6	15.79	20.9	126.21	12	5	5	8.77	16.63
Q2KIL9	113.71	5	4	4	11.43	14.37	158.35	17	8	8	22.86	33.03
LONM	73.5	3	3	3	2.44	3.33						

NNTM	160.8	14	14	14	17.72	17.31	159.81	10	7	6	8.86	9.48
F1N2W3	125.89	14	9	8	18.37	19.29	192.79	73	20	14	40.82	33.81
ATPB	209.54	41	22	22	44.9	56.44	251.47	84	23	23	46.94	66.29
SODC	126.74	6	4	4	30.77	38.82	147.9	11	5	5	38.46	48.03
RL40	66.06	2	2	2	7.69	14.06						
RHOA	42.55	1	1	1	3.57	12.44						
ECHB	168.87	12	9	9	18.37	18.95	160.97	24	13	13	26.53	33.68
A3KN04	148.05	10	10	9	14.93	22.66	70.7	6	3	3	4.48	5.58
F6Q4J9	97.91	4	4	4	14.29	24.21	167.39	22	10	10	35.71	46.54
RPN2	65.72	3	3	3	6.12	6.02	53.63	2	1	1	2.04	2.06
E1BIG8	44.43	1	1	1	2.38	3.14	112.39	8	4	4	9.52	21.6
F1N5D6	49.74	2	2	2	4.26	7.25	127.74	12	6	5	12.77	16.58
F1N461	22.85	1	1	1	2	3.24						
F1MZW9	97.21	3	3	3	6.52	12.25	176.84	14	8	8	17.39	29.4
H2AJ	69.21	10	3	1	11.54	20.93						
F1MX45	46.07	1	1	1	2.17	2.27						
E1BLS8	35.42	1	1	1	1.2	1.08						
IF5A1	74.37	3	2	2	11.76	22.73	51.23	2	1	1	5.88	7.79
E1BAX6	66.65	3	3	3	4.84	6.73	85.64	6	4	4	6.45	10.5
PARK7	92.05	4	4	4	15.38	19.05	107.03	7	4	4	15.38	25.4
SOX	98.2	4	4	4	10	14.03						
E1BDK9	30.5	1	1	1	1.56	1.48	110.84	14	5	5	7.81	10.51
F1ME11							38.54	2	1	1	7.14	12.09
E1BHE2	104.78	7	6	1	15	11.03						
QCR2	131.55	7	6	6	13.95	17.66	125.58	5	4	1	9.3	13.02
F1MPS3	66.78	3	3	3	10.34	12.5	106.35	10	3	3	10.34	15
F1N3E2							56	5	2	2	4.88	7.32
F1N6Y8	31.85	1	1	1	2.86	5.36						
SSRA	30.21	1	1	1	4	5.24						
E1BGR9	47.51	2	2	2	7.14	13.93						
E1BFB0	116.05	10	10	9	2.89	4.64	130.45	7	5	4	1.45	2.83
F1MRL5	97.78	4	4	2	7.02	7.88	160.14	29	10	3	17.54	14.26
F1MSB7	89.85	5	5	1	6.85	8.76	70.76	3	1	1	1.37	1.88
NCPR	97.03	5	5	5	6.58	11.65	68.19	5	2	2	2.63	2.95
F1MHJ8	123.66	10	8	8	14.81	22.37	195.56	31	12	12	22.22	32.16
A4IFU5	69.21	10	3	1	11.54	20.77						

NDUA4	38.26	1	1	1	8.33	12.2	48.13	1	1	1	8.33	14.63
E1BBT5							38.12	2	1	1	1.92	2.85
E1B7X7	125.89	14	9	8	18	19.26						
XYLB	37.51	2	2	2	5.41	5.31	139.91	7	5	5	13.51	19.39
ADHX	88.01	4	3	2	7.89	12.3	108.62	6	5	5	13.16	21.66
F1MWQ2	59.76	2	2	2	4.08	7.74						
F1MX22	45.39	3	2	2	5.88	6.55	91.64	10	6	6	17.65	15.77
TCPQ	56.77	1	1	1	1.75	2.01						
RL35	38.92	1	1	1	2.5	8.13						
F1MXA7	36.09	2	2	2	8	6.85	28.05	2	1	1	4	3.65
E1BE48	30.5	1	1	1	2.78	2.56						
F1MZ62	176.45	20	15	15	13.04	21.96	234.13	39	20	19	17.39	28.04
H11	97.65	4	4	4	20	20.19	101.28	7	3	3	15	20.19
F1MQ27	58.63	1	1	1	3.23	3.08	87.68	4	2	2	6.45	5.69
RL4	54.43	3	3	3	3.3	7.11	59.03	4	2	1	2.2	4.03
F1MUW8	46.38	2	2	2	9.09	7.98	118.97	16	7	7	31.82	34.04
F1MEA5	28.29	1	1	1	2.44	3.02	36.44	1	1	1	2.44	5.77
F1MVU9	57.95	1	1	1	3.57	5.2						
DOPD	85.06	13	4	4	28.57	34.75	119.53	21	7	7	50	75.42
UK114	141.71	11	8	8	66.67	67.15	161.13	17	8	8	66.67	59.12
E1BE67	58.79	2	2	2	5.56	13.33						
GLRX3							32.42	1	1	1	2.5	3.89
A6QR15							64.06	3	2	1	3.77	7.04
E1BEX8	38.56	1	1	1	1.92	3.05						
A7MBH9	22.85	1	1	1	2.17	3.1						
ETFB	143.58	8	6	6	15.38	27.06	144.83	14	6	6	15.38	28.24
GSTT1	25.14	1	1	1	3.45	7.92						
E1BBM1	56.88	2	2	2	5.41	6.73	81.91	4	2	2	5.41	8.42
E1BBP7	112.73	13	4	4	16.67	40.78	135.81	27	5	5	20.83	41.75
SFXN1	103.7	3	3	3	9.09	9.94	90.59	8	3	3	9.09	13.98
F1MVY3	32.73	1	1	1	3.12	8.94						
PSA2	53.61	2	2	2	8.33	14.1	102.18	5	2	2	8.33	14.96
F1N441							53.2	1	1	1	1.56	1.5
F1MRN2	69.21	10	3	1	11.11	20.93						
F1MGX0							41.31	2	2	1	2.74	4.14
F1MU24	57.95	2	2	1	2.2	3.14						

DX39B							36.43	1	1	1	1.92	2.34
RS23							53.44	1	1	1	3.12	7.69
HS90A	131.12	6	6	4	5.5	9.28	109.81	5	4	1	3.67	6
QORL2	76.04	4	4	4	13.33	16.91	109.23	8	4	4	13.33	18.91
F1MVP8	112.73	5	5	5	9.8	9.64	162.24	18	8	7	15.69	18.07
F1MFW9							99.69	13	4	2	8.33	7.78
F1N2L9	140.56	12	10	8	18.87	16.51						
IF4A2	53.02	2	2	2	4.08	5.65	26.61	1	1	1	2.04	2.46
E1BNQ4	33.98	1	1	1	2.78	3.95						
E1BLC2	112.73	13	4	4	16	40.78	135.81	27	5	5	20	41.75
DDAH2							25.71	2	1	1	4.35	2.81
F1MR91							30.52	3	1	1	2.7	1.63
E1BFS8							23.12	1	1	1	3.33	2.49
E1BMX0	32.6	1	1	1	12.5	14.67						
F1MDH3	67.52	2	2	2	0.76	1.02	91.98	3	3	2	1.14	1.45
3HIDH	90.06	4	3	3	9.09	7.14	181.23	16	8	8	24.24	34.23
E1BP42	54.73	2	2	2	3.28	5.07	41.01	1	1	1	1.64	2.23
E1BBT0	110.58	8	6	6	16.67	23.62	32.59	1	1	1	2.78	5.21
RS24							42.3	3	1	1	2.86	9.23
F1N0L6	24.81	1	1	1	2.86	3.62	40.51	2	1	1	2.86	5.43
ENOA	162.62	10	9	6	16.36	31.57	197.08	31	15	8	27.27	44.01
F1MN38	32.73	1	1	1	2.86	10.06						
F1MTZ7	130.45	17	10	9	34.48	36.39						
E1BHK8							38.54	2	1	1	6.67	11.96
CO3	119.78	10	10	8	5.13	6.62	142.5	12	8	8	4.1	6.56
F1MLV5	119.38	8	7	6	12.28	16.97	189.49	34	13	11	22.81	30.51
GRP75	142.95	12	10	10	11.24	17.82	162.03	24	10	10	11.24	20.18
E1B9X2	28.53	1	1	1	1.96	2.79						
THIM	178.75	31	17	17	41.46	43.83	238.9	78	24	24	58.54	65.99
ENPL	176.45	20	15	15	13.16	22.01	234.13	39	20	19	17.54	28.11
E1BEL9							38.12	2	1	1	1.96	2.85
LYPA1	70.68	3	2	2	11.76	10.43	133.87	11	5	5	29.41	30
PYGL	216.46	33	20	19	18.35	28.44	275.7	94	36	36	33.03	47.12
F1ME46	65.64	2	2	2	3.64	4.27	74.87	2	2	2	3.64	6.99
F1N597							43.28	1	1	1	3.85	6.35
F1MZD5	132.6	14	7	7	22.58	25.81	157.94	18	8	8	25.81	38.71

SERA							27.17	2	1	1	2.44	1.69
E1BLN2							59.05	3	2	1	3.08	3.82
G1K1R4	53.02	2	2	2	4.08	5.64	26.61	1	1	1	2.04	2.45
E1B9M9	112.73	13	4	4	16	40.78	135.81	27	5	5	20	41.75
Q148D6	46.64	2	2	2	10.53	7.72	48.8	3	1	1	5.26	5.69
A6H7J6	168.36	20	11	11	17.46	29.02	224.4	54	20	20	31.75	49.8
THOP1	38.44	1	1	1	1.25	1.89						
RS30	30.35	1	1	1	4.76	16.95						
RGN	155.42	20	10	10	27.03	49.83	193.48	44	13	13	35.14	57.86
E1B7Z2	22.75	1	1	1	4.76	4.57						
F1N6Y1	93.14	4	4	4	4.6	7.25	141.29	11	8	8	9.2	14.18
F1MER7	28.96	1	1	1	0.34	0.3	93.83	5	4	2	1.37	0.78
F1MNB1	94.54	4	4	4	7.69	11.11	148.78	12	7	7	13.46	18.44
PPIB	136.09	11	7	7	20.59	32.87	162.59	26	9	7	26.47	42.59
F1MX88	171.7	16	15	11	24.19	29.53	202.95	42	15	11	24.19	31.99
F1N0X2							28.95	1	1	1	3.03	3.86
F16P1	161.12	11	9	9	23.08	35.8	193.73	26	12	11	30.77	48.52
G1K1L7	26.17	1	1	1	3.33	5.73						
F1MF47							26.62	1	1	1	1.43	1.74
PBLD	38.75	1	1	1	3.12	4.17						
KAD3	99.06	5	5	5	16.67	26.87	156.91	7	6	6	20	35.24
F1MZN9	93.91	10	6	5	15.79	14.93	158.62	22	9	7	23.68	29.87
F1MH57	170.11	10	7	7	14.89	19.81	153.73	14	6	6	12.77	19.09
F1MD11	35.26	1	1	1	2.04	4.11						
F1MMK0	123.4	7	6	6	22.22	39.71	109.05	9	3	3	11.11	22.06
E1BP41	54.73	2	2	2	3.33	5.1	41.01	1	1	1	1.67	2.24
E1BBX6							203.09	35	17	16	12.5	14.56
ODBA	40.52	1	1	1	1.92	2.2	62.39	5	4	2	7.69	9.67
ODO2	76.32	4	4	4	7.55	10.33	83.81	4	3	3	5.66	6.15
PSA3	32.31	1	1	1	3.23	3.92						
CDC42							46.31	1	1	1	4.55	6.81
CP2DE	145.25	17	11	2	23.91	26.6	212.67	68	23	4	50	45.2
E1BGS2	97.43	7	7	6	6.19	7.58	146.2	14	9	9	7.96	10.62
P5CR3	40.47	1	1	1	4.17	3.57						
OTC	131.32	16	9	9	22.5	29.38						
E1BP96	52.09	2	2	1	2.53	2.69	34.9	2	1	1	1.27	1.48

BDH2	57.95	1	1	1	3.7	5.31					
HUTI							87.1	4	2	2	4.35	9.15
HMGCL	106.82	3	3	3	9.09	14.46	105.2	5	2	2	6.06	8.62
E1BCZ8							116.98	18	5	1	9.8	9.33
E1BGL0	44.43	1	1	1	2.56	3.17	112.39	8	4	4	10.26	21.83
MA2B1							29.5	2	1	1	1	1.1
RS13	78.99	4	4	4	12.12	29.14	52.6	2	1	1	3.03	7.95
F1MDS3	145.16	9	8	8	12.31	15.78	191.57	25	12	10	18.46	25
F1MNK0							30.39	1	1	1	6.25	4.66
NB5R3	131.22	9	8	1	23.53	25.25	171.73	22	11	11	32.35	44.19
F1MGG6	37.1	1	1	1	7.14	12.05					
KAP2	55.83	1	1	1	2.08	3.74					
F1MTZ1	103.1	3	3	3	11.11	13.13	86.49	3	3	3	11.11	15.92
F1MXK5							151.87	19	8	8	13.56	18.68
ACBP	80.65	6	3	3	20	39.08	111.47	15	5	5	33.33	59.77
F1MBS4	63.71	2	2	2	6.06	6.4	22.7	1	1	1	3.03	2.69
Q8HZJ8	112.06	5	4	4	12.5	15.41	138.96	26	6	6	18.75	27.05
F1MV80	96.6	3	3	3	5.36	8.11	73.2	3	1	1	1.79	2.7
PEBP1	75.23	4	2	2	9.09	18.18	178.29	18	8	8	36.36	60.96
F1MGU7	110.19	5	5	5	11.63	13.54					
HS71B	106.44	7	7	1	8.43	13.1	155.98	9	7	1	8.43	16.07
NDUBA	30.56	1	1	1	3.23	7.95					
F1N453	86.9	4	4	2	14.29	19.84					
E1BEL7	120.16	11	7	7	30.43	46.57	185.59	25	9	9	39.13	60.78
HS71A	106.44	7	7	1	8.43	13.1	155.98	9	7	1	8.43	16.07
HCD2	218.24	33	13	13	52	65.52	251.83	103	22	22	88	86.59
DESM							59.05	3	2	1	3.08	3.83
F2Z4I6	69.21	10	3	1	11.54	20.77					
AK1A1	115.83	9	7	7	18.42	24.62	145.77	28	11	10	28.95	37.23
F1MR38	69.92	4	4	4	15.38	12.87	126.48	10	4	4	15.38	13.53
F1N338	147.45	14	9	8	21.95	36.94	198.47	53	16	16	39.02	61.46
RS4	55.08	2	2	2	4.17	7.6	45.27	3	1	1	2.08	3.42
E1BKX7	31.92	1	1	1	0.41	0.46	61.39	4	2	2	0.82	1.19
RL12							33.51	2	1	1	3.85	5.45
RL14	47.32	1	1	1	1.89	5.61	64.63	2	2	1	3.77	7.94
E1BDP3	117.48	8	7	7	12.28	16.54	136.68	14	7	7	12.28	21.29

E1BPF8	22.47	1	1	1	33.33	61.11	42.72	3	1	1	33.33	61.11
F1MYC9	79.94	4	4	3	1.22	1.52						
F1MN79	142.98	13	8	8	15.69	19.55	185.53	30	11	11	21.57	30.96
E1B816	34.55	1	1	1	1.37	1.41	41.43	2	2	1	2.74	2.19
F1MFY3	30.35	1	1	1	4.17	7.41						
RS3	61.6	3	3	3	8.11	10.7	61.48	4	3	3	8.11	12.76
A4IFT6	28.69	1	1	1	4	4.44						
E1BCD2	60.82	2	2	2	5	6.03						
F2Z4G5	69.21	10	3	1	11.54	20.77						
F1MYZ7	95.45	5	4	4	12.9	11.42	148.48	19	7	7	22.58	26.94
F1MRG7	28.53	1	1	1	2.13	2.84						
G1K1B4							26.01	1	1	1	3.03	6.13
E1B9V8							56.24	5	2	2	3.57	5.21
E1BDC8	48.74	1	1	1	5.56	6.43	50.08	1	1	1	5.56	11.7
ST1A1	111.11	12	7	6	19.44	27.8	148.96	17	7	6	19.44	25.08
SUCA	87.09	5	4	4	10.81	13.29	104.97	6	3	2	8.11	13.29
DHSO	136.61	9	8	8	24.24	30.06	178.82	24	9	9	27.27	41.29
F1N301	37.87	1	1	1	4.17	8.27						
F1MWU9	84.09	5	5	1	6.1	9.05	124.47	6	4	1	4.88	7.8
G1K1T6	87.29	5	5	5	12.5	12.37	156.98	12	7	7	17.5	22.94
GNAT2	22.85	1	1	1	2.22	3.11						
F1MMC8							32.74	1	1	1	2.94	2.5
F1MM10	120.4	12	9	5	16.67	19.22	137.66	27	11	5	20.37	22.75
E1BFL1	85.53	3	3	2	6.25	6.77	89.39	3	2	1	4.17	4.98
CGL	32.44	1	1	1	3.03	3.46						
G1K1N1	59.67	3	3	3	9.68	8.81	56.26	3	2	2	6.45	6.69
APOC3							37.82	1	1	1	9.09	11.46
Q9TUQ0	32.76	1	1	1	1.39	1.17						
ATP5H	37.24	1	1	1	4	8.07	102.48	8	3	3	12	24.22
F1N1X6	56.73	2	2	2	7.14	8.16						
F1MI32	116.99	6	6	3	6.06	6.95						
E1BDT6	69.21	10	3	1	11.54	20.77						
Q2KJE7							95.93	3	2	2	4.88	10.44
F1MPL4	73.28	6	4	4	12.5	15.04	69.94	3	3	3	9.38	13.91
NDUS1							60.47	2	2	2	2.63	4.54
RS20	38.93	1	1	1	4.17	10.08						

F1MKM5	128.87	10	6	6	21.43	21.69	138.79	14	5	5	17.86	21.02
Q3MHX0							88	3	3	3	5.77	6.58
AL4A1	161.03	17	13	12	20.97	28.95	175.8	19	11	10	17.74	23.09
Q2KHW4	82.43	4	3	3	10	14.29	93.39	6	3	3	10	15.28
E1BJA8	56.99	1	1	1	2.33	6.8						
TRFE	121.64	11	10	9	12.05	16.19	197.18	24	14	12	16.87	25.14
F1MT51	67.56	2	2	2	7.41	8.91						
K1C19							87.41	13	4	1	8.89	10.78
TPM1	35.1	1	1	1	1.85	3.17						
E1BET9	48.78	1	1	1	5.88	14.77						
E1BF59	75.12	3	3	3	0.43	0.66	58.79	4	4	1	0.57	0.73
Q2KIV7	85.55	4	4	4	10.26	14.07	43.32	3	2	2	5.13	8.56
F1N6D8	124.97	11	9	1	18.37	16.48	172.39	37	13	2	26.53	20.56
GPDA							156.98	12	7	7	20	25.5
F1MHT1	135.85	9	9	8	5.73	6.91	152.1	12	6	5	3.82	5.48
PGK1	151.14	9	9	9	16.98	30.94	104.35	10	6	6	11.32	15.59
PTPA	33.98	1	1	1	2.78	3.09						
SBP1	154.57	16	11	11	23.4	26.91	195.17	30	14	14	29.79	40.89
F1MX96	113.48	9	8	3	15.69	18.83	168.18	24	13	12	25.49	31.78
A5D7E8	157.97	17	12	12	16.22	25.35	209	34	18	17	24.32	42.38
A5D7R9	32.6	1	1	1	4.35	5.82						
F1MUX6	141.48	11	7	5	23.33	33.33	150.7	17	8	7	26.67	39.19
G1K1R1	39.89	1	1	1	2.7	4.22						
G1K231	150.74	20	12	12	32.43	56.32						
Q2KIS5	110.13	10	8	7	19.51	24.68	159.55	32	10	8	24.39	32.91
Q3ZC41	167.7	19	11	11	25.58	37.03	192.5	39	14	14	32.56	48.82
Q5E970							36.43	1	1	1	1.92	2.34
F1MKF2							56	5	2	2	5	7.29
F1MV16	58.79	2	2	2	6.06	13.53						
AL7A1	123.66	10	8	8	14.81	22.45						
RL31							65.82	4	1	1	3.23	11.2
F2Z4J1	69.21	10	3	1	11.54	20.77						
E1BC28	36.69	1	1	1	1.85	2.87						
ACOX1	69.56	4	4	4	6.15	13.18	56.59	1	1	1	1.54	1.97
COX2							95.55	8	3	2	27.27	15.42
DHAK							137.95	11	5	5	9.62	14.01

F1MFZ4	86.1	4	4	3	10.81	12.11	44.03	3	1	1	2.7	2.63
GCST							59.73	3	2	1	5	4.28
F1MUZ9	228.3	36	19	19	26.03	45.9	245.61	79	23	3	31.51	57.24
CY1							68.59	3	2	2	6.06	8.31
AADAT	39.22	1	1	1	2.33	2.12						
KBL	99.6	5	3	3	6.82	10.98	176.46	15	6	6	13.64	21.96
Q9XSW5	32.76	1	1	1	1.32	1.08						
F1N4Q0	40.9	1	1	1	3.03	6.36						
GNAS2	22.85	1	1	1	1.82	2.79						
F1MFQ2	114.65	9	9	9	15.25	21.65	120.05	7	4	4	6.78	12.2
ACTN1	106.5	7	7	4	6.8	9.64	151.22	13	7	1	6.8	10.54
MYL9							92.7	4	3	2	13.04	15.12
FABPL	112.33	13	4	4	21.05	38.58	138.75	27	6	6	31.58	46.46
F1MK08	88.88	4	4	4	9.76	10.3	143.33	10	6	6	14.63	17.76
Q3MHK8							92.66	7	4	4	18.18	16.39
CRYAB	26.14	1	1	1	4.76	4.57	22.23	1	1	1	4.76	4.57
PSA5	47.27	2	2	2	10	10.79	72.79	2	2	2	10	10.79
EZRI							40.78	4	2	2	2	2.75
G1K1R6	124.99	6	6	5	17.14	20.1	88.16	5	3	3	8.57	7.63
G1K236	28.55	1	1	1	2.78	7.33						
F1MGV4	26.89	1	1	1	2.44	2.53	42.24	3	2	2	4.88	3.79
RAB1B	36.69	1	1	1	4.17	5.47						
SUCB2	120.63	8	6	6	11.76	14.58	150.49	14	9	9	17.65	24.77
F1N1T4	32.73	1	1	1	3.03	8.89						
ZADH2	59.54	3	3	3	7.89	9.02	83.48	5	4	4	10.53	18.04
E1BIL1	22.85	1	1	1	1.56	2.88						
UGPA	114.65	9	9	9	15	21.65	120.05	7	4	4	6.67	12.2
HEMO	34.62	1	1	1	1.96	3.7						
F1MRM0	32.6	1	1	1	3.12	5.85						
F1MHN9	111.82	8	6	2	11.32	12.98	158.8	35	16	10	30.19	33.33
H2B1N	80.38	4	4	1	14.29	19.84	96.03	13	5	1	17.86	34.92
G1K1F6	99.6	5	3	3	6.38	10.57	176.46	15	6	6	12.77	21.15
F1MKZ5	39.08	1	1	1	1.54	4.82	39.89	1	1	1	1.54	4.82
F1MPK4	49.74	2	2	2	4.55	7.63	127.74	12	6	5	13.64	17.44
ANXA1	62.46	2	2	2	3.77	8.38	52.79	1	1	1	1.89	3.76
UCRI							80.93	4	2	2	6.67	10.22

G1K122							105.45	7	3	3	11.54	15.42
COPA							47.51	1	1	1	0.69	1.14
COF1	80.21	2	2	2	6.9	20.48	92.41	4	3	3	10.34	27.71
F2Z4F5	109.56	3	3	3	3.95	6.71	66.33	3	1	1	1.32	2.19
E1BGI0							41.67	1	1	1	0.74	0.68
ADT1	100.35	10	8	4	19.51	26.85	144.73	17	8	2	19.51	26.17
F1N3R2							33.51	2	1	1	3.85	4.69
F1MJL2	58.79	2	2	2	8	16.36						
F1MLX9	44.06	1	1	1	2.33	2.42						
A4IFP7	68.44	3	2	2	10	11.67						
GLYM	77.35	3	3	3	5.26	5.75						
GSTA2	99.56	17	7	1	21.21	29.6	141.95	33	9	3	27.27	39.01
E1BB13	39.08	1	1	1	1.89	4.96	39.89	1	1	1	1.89	4.96
Q24K14	132.19	12	9	9	23.08	30.68	171.05	38	13	13	33.33	43.95
C1QBP	43.01	1	1	1	3.7	3.96	49.67	2	1	1	3.7	5.04
GSTA1	127.47	26	11	3	34.38	40.99	154.4	55	12	1	37.5	45.95
F1MT58	144.22	18	10	7	25.64	31.58	187.23	38	18	13	46.15	64.71
F1MNX2	52.09	2	2	1	2.47	2.56	34.9	2	1	1	1.23	1.41
IF4A1	53.02	2	2	2	4.08	5.67	26.61	1	1	1	2.04	2.46
F1MCZ4	28.26	1	1	1	1.45	1.94						
Q1RMT3	27.53	1	1	1	3.7	5.97						
F1N650	62.46	2	2	2	3.77	8.38	52.79	1	1	1	1.89	3.76
CYB5	90.81	7	3	3	25	15.67	142.6	14	5	5	41.67	47.76
FMO3	67.79	4	4	4	7.14	11.47	193.57	39	14	14	25	36.47
MOSC2	70.41	5	4	4	9.52	13.1	137.03	13	6	6	14.29	21.13
RL18							50.3	1	1	1	2.08	6.91
F1N509							73.08	3	2	1	3.33	10.75
F2Z4C1	105.88	8	6	6	15	18.18	116.23	10	6	1	15	17.52
F1MP67	126.15	11	8	1	15.69	21.95						
F1MYV0	47.71	1	1	1	1.82	2.57						
E1BJU8	167.77	20	12	1	21.43	26.47	218.75	63	23	4	41.07	48.96
F1MZ70	32.73	1	1	1	3.57	11.85						
TBA1B	105.88	8	6	6	15	18.18						
E1B8G9	86.9	4	4	2	12.9	18.66	119.28	17	6	2	19.35	33.58
F1N0H3	25.94	1	1	1	4.35	3.4						
E1BJA2	98.87	4	4	4	4.94	9.3	173.6	14	9	9	11.11	19.9

RS2	78.32	2	2	2	4.17	8.19	54.96	2	1	1	2.08	4.44
SAHH	158.61	25	11	11	25.58	30.32	202.46	57	15	15	34.88	41.44
F1MPK3	36.69	1	1	1	3.45	4.47						
HOGA1	59.67	3	3	3	9.68	8.87	56.26	3	2	2	6.45	6.73
A4FUD2	37.7	1	1	1	3.03	3.59	62.86	1	1	1	3.03	3.59
E1BBF5							47.51	1	1	1	0.69	1.14
IPYR	74.06	3	3	3	8.57	11.76	40.11	2	1	1	2.86	3.11
GLYAL							48.24	1	1	1	3.57	7.8
A6QLL8	34.15	1	1	1	2.5	3.3						
2AAA							60.41	4	1	1	1.69	2.72
E1B9K1	66.06	2	2	2	16.67	23.38						
PDIA3	157.97	17	12	12	16.44	25.35	209	34	18	17	24.66	42.38
ATPG	77.45	5	5	5	12.2	17.79	127.11	8	5	5	12.2	18.12
TBB4	85.65	4	4	1	11.11	12.39	154.5	20	9	1	25	20.72
F1MRH2	71.67	3	3	2	5.56	8.72	96.25	9	5	3	9.26	11.36
F1MLX0	78.92	4	4	4	13.33	15.29	129.25	5	3	3	10	14.65
A7MBF1	68.36	3	3	3	8.11	8.94						
TALDO							32.21	2	1	1	2.17	3.26
A6H783	85.53	5	3	2	9.38	11.97	92.53	11	3	2	9.38	15.14
MIME	48.49	2	2	2	5.41	8.36						
ARP2	28.53	1	1	1	2.04	2.79						
G1K1Z7	32.31	1	1	1	4.35	6.87	29.06	1	1	1	4.35	6.11
F1MQM4	48.3	1	1	1	1.79	1.51						
Q3ZCJ6	140.84	17	10	10	21.28	25.06	238	118	31	29	65.96	64.52
ALDH2	203.29	50	21	18	37.5	40.77	257.71	107	31	28	55.36	58.46
A7E3W4	102.86	5	5	5	7.94	11.74	89.16	4	3	3	4.76	6.71
H33							37.42	2	2	2	6.67	11.76
E1BLY1							29.06	1	1	1	4.55	6.15
RSSA	106.01	4	4	4	14.81	16.27	68.85	3	1	1	3.7	5.08
E1BCL3							47.42	3	1	1	2.5	7.24
E1B9K8	111.11	12	7	6	20	27.89						
PGAM1							102.17	4	3	3	9.09	18.9
F1MYM9	110.13	7	6	3	1.85	4.24	120.82	7	5	1	1.54	2.62
E1BG46	32.73	1	1	1	2.27	8.38						
ACADV	178.25	11	11	11	15.28	23.21	165.11	14	8	8	11.11	14.5
F1N1T5	233.66	45	32	27	34.04	48						

F1N3P9							32.27	1	1	1	1.45	2.3
NDUA9							53.86	2	1	1	2.13	3.16
TERA	109.21	6	6	6	6.12	8.81	127.76	10	6	5	6.12	11.17
F1MZW4	45.39	3	2	2	5.71	6.79	91.64	10	6	6	17.14	16.36
F1MEU1	97.91	4	4	4	14.81	26.64						
ARP3							68.12	5	2	2	4.44	5.5
F1MB08	162.62	10	9	6	16.36	31.57	197.08	31	15	8	27.27	44.01
F1MEN8	160.22	16	12	12	14.12	18.66						
E1BI94	28.55	1	1	1	2.7	7.38	55	1	1	1	2.7	8.72
GNAI1	22.85	1	1	1	2.04	3.11						
ODB2	61.34	3	3	3	5.88	9.34	121.82	13	6	6	11.76	19.71
F1MEV3	38.71	1	1	1	2.08	1.69						
NDUV2	44.82	1	1	1	3.7	5.22	30.7	2	1	1	3.7	5.22
PTGR2	63.39	3	3	3	10.34	9.69	77.47	5	3	3	10.34	8.83
F1MV10							50.08	1	1	1	8.33	15.87
TBA1C	105.88	8	6	6	15	18.26	128.6	12	6	1	15	17.59
ERP44	41.59	2	2	2	4.76	3.94	62.69	3	3	3	7.14	8.37
A5D973							60.41	4	1	1	1.69	2.72
E1BAT6							34.87	2	1	1	3.57	6.9
ML12B							92.7	4	3	2	13.04	15.2
VTDB	86.97	4	4	4	7.14	12.24	72.62	3	2	2	3.57	4.01
F1ME36	87.44	3	3	3	12	13.24						
F1MUX5							150.03	30	8	1	25.81	28.95
AATM	157.48	19	9	9	19.57	25.35	191.91	48	16	13	34.78	48.84
GLCM							60.62	3	2	2	3.77	7.09
MOGT1							28.95	1	1	1	3.12	3.88
PRDX3	121.54	7	6	6	26.09	26.07	148.63	21	8	8	34.78	40.47
G6PI	60.81	3	3	3	5.08	5.21	152.98	16	6	6	10.17	15.62
DDBX	178.67	33	14	4	37.84	47.37	231.84	77	22	7	59.46	53.56
F1N5J8	119.7	12	6	6	16.22	22.49	157.93	25	10	10	27.03	39.82
1433E							119.88	7	4	4	12.12	19.22
F1MNK2	149.21	14	10	10	25	26.67	158.15	29	12	12	30	33.59
G1K222	49.28	2	2	2	11.11	19.87						
HPRT	97.6	3	3	3	10.34	16.51	37.37	1	1	1	3.45	5.05
QOR	128.73	7	7	7	21.88	30.3	130.43	19	7	7	21.88	35.45
G1K1X6	51.45	3	2	2	4.76	7.49	81.47	3	3	3	7.14	12.57

F1MTM8	188.92	46	23	23	33.82	36.59	237.74	96	29	2	42.65	49.2
GSTP1							126.4	10	5	5	26.32	34.76
H2AZ	65.84	10	3	1	12.5	21.09						
APT	33.03	1	1	1	4.55	6.11	76.76	5	3	3	13.64	20
DPYD	90.5	4	4	4	3.67	4.68						
DNPEP	46.07	1	1	1	2.27	2.34						
ATPD	82.84	2	2	2	16.67	18.45	73.25	2	1	1	8.33	8.33
F1MG79	156.61	20	12	1	21.05	27.69	199.44	61	17	17	29.82	41.35
F1MVL2	143.14	19	12	12	26.09	32.61	227.57	67	21	1	45.65	66.91
A2VE06	55.08	2	2	2	4.17	7.6	45.27	3	1	1	2.08	3.42
COMT	123.4	7	6	6	25	48.87	109.05	9	3	3	12.5	27.15
TCPG	35.73	1	1	1	1.43	1.83	31.28	1	1	1	1.43	2.2
ACTN4	132.71	9	8	4	7.69	12.4	192.24	17	11	4	10.58	17.12
E1BFG0	123.66	10	8	8	16.33	23.68	195.56	31	12	12	24.49	34.05
E1BMG9							268.98	99	38	33	40.43	54.88
RL23A	28.55	1	1	1	2.5	7.05	55	1	1	1	2.5	8.33
F1MGJ7	37.46	2	2	1	8.7	7.07						
F1MU22	81.23	5	4	4	10	6.33	154.32	16	6	6	15	11.93
Q7YRW9	45.84	1	1	1	4	7.04						
HSPB1	120.16	11	7	7	31.82	47.26	185.59	25	9	9	40.91	61.69
DHSB	83.14	4	4	4	10	16.79	129.92	13	5	5	12.5	18.57
GSTA4							51.2	2	1	1	3.85	7.66
E1BLY5							25.71	2	1	1	4.17	4.82
F1MM13	75.9	5	5	5	7.35	6.57	163.97	17	9	9	13.24	18.56
F1N6A0	41.85	2	2	2	11.11	15.69	112.79	10	6	5	33.33	31.37
ACAD8	170.11	10	7	7	14.89	19.95	153.73	14	6	6	12.77	19.23
E1BJW0							59.04	2	1	1	0.79	1.02
F1MZL3	169.82	13	10	10	29.41	41.18	208.08	29	15	15	44.12	61.3
F1MZ38	87.09	5	4	4	10.81	13.29	104.97	6	3	2	8.11	13.29
COX6C	23.5	1	1	1	7.14	9.46						
F1N2F5							87.1	4	2	2	4.17	8.74
E1BBV5	48.74	1	1	1	5.88	6.36						
RS27A	66.06	2	2	2	5.88	11.54						
F1MZ45	153.29	18	11	5	26.83	34.67	191.31	34	15	6	36.59	46.13
PH4H	127.46	8	8	8	16.67	19.29	60.16	5	3	3	6.25	5.99
Q3ZCA7	22.85	1	1	1	2.04	3.11						

F1MCI6	33.93	1	1	1	2.22	1.95						
A6QNL5	161.34	10	7	7	12.96	24.06	177.21	16	7	7	12.96	24.06
LRC59							39.34	3	1	1	1.72	3.92
AOFB	157.57	20	12	1	21.05	28.85						
NDUS8							63.59	2	1	1	3.85	5.66
ATP5E	24.7	1	1	1	8.33	15.69						
E1BLC0	102.96	7	6	6	15.79	20.78	109.97	9	4	4	10.53	9.7
HAOX2	84.53	4	4	3	9.76	13.6	95.88	6	3	3	7.32	11.33
LDHA	85.26	6	5	3	13.16	17.17						
F1MNS5	57.16	2	2	2	2.13	2.92	85.62	4	3	3	3.19	4.44
RL8	65.46	2	2	2	3.85	10.51						
F1MPU0	97.6	5	5	5	2.96	4.68						
AOC3	137.9	9	9	7	16.67	13.11						
MYL6	94.8	4	3	3	20	19.87	142.56	12	6	6	40	47.02
F1ME82	40.26	1	1	1	3.03	3.32						
RL27	47.51	2	2	2	5.71	12.5	25.41	1	1	1	2.86	6.62
Q08DN5	45.11	2	2	2	2.94	3.83	63.36	2	2	2	2.94	4.79
Q2KIM6	117.3	5	5	5	23.81	36.87	173.17	27	8	8	38.1	55.3
F1MFF6	114.47	7	6	2	14.29	15.51	158.51	29	9	1	21.43	19.55
F1N5F2	40.52	1	1	1	1.92	2.19	62.39	5	4	2	7.69	9.65
PGRC1	96.35	4	3	3	12	12.37	109.01	13	5	4	20	20.62
E1B9R3	49.52	1	1	1	0.6	0.72	72.34	3	2	2	1.2	1.76
F1MFB7	103.4	5	5	5	8.77	11	161.81	15	6	6	10.53	17.6
RL10A	49.27	1	1	1	2.44	5.99						
E1B871	32.73	1	1	1	2.27	8.47						
ALBU	198.7	55	24	24	29.27	34.27						
F1MQ37	159.19	16	15	9	4.56	9.7	169.24	17	9	3	2.74	5.59
F1N206	87.68	3	3	3	5.26	10.19	100.66	7	3	3	5.26	9.42
E1BCE2	139.15	12	8	3	14.29	14.37	206.66	61	16	5	28.57	25.9
RL7A	49.45	2	2	2	3.33	7.89						
Q17QL7							109.25	10	5	1	9.8	8.83
E1BDK8	30.5	1	1	1	2.78	2.56						
GATM	151.68	12	9	9	17.31	28.84	220.15	45	20	20	38.46	58.16
CAZA1	24.81	1	1	1	2.86	3.5	40.51	2	1	1	2.86	5.24
HSP7C	155.78	14	13	8	15.85	25.69	197.88	20	12	9	14.63	27.23
GLO2	84.26	5	4	4	12.5	21.92	76.69	8	3	3	9.38	15.77

RL11	89.34	2	2	2	6.25	12.92	54.94	1	1	1	3.12	7.87
F1MG05	50.69	2	2	2	3.7	4.32	36.58	1	1	1	1.85	2.05
E1BIL5	69.21	10	3	1	11.54	20.77						
ATP6							67.73	3	2	2	22.22	12.39
G1K1G2	86.52	6	3	3	12	14.4	131.12	11	6	5	24	24
F1MJW6	59.76	2	2	2	4.08	7.76						
HIBCH	49.74	2	2	2	4.35	7.25	127.74	12	6	5	13.04	16.58
F1MLK0	147.98	9	8	7	15.69	22.67	207.07	35	18	17	35.29	48.45
F1MD19	60.81	3	3	3	4.92	5.06	152.98	16	6	6	9.84	15.18
G1K133	53.61	2	2	2	7.69	13.87	102.18	5	2	2	7.69	14.71
IDHP	68.74	3	3	2	5.26	5.97	88.78	9	4	3	7.02	7.96
PROF1	42.32	1	1	1	6.67	11.43	156.77	17	6	6	40	57.86
F1MR41	123.63	11	9	3	17.31	20.79	191.39	42	16	7	30.77	30.71
COX5B	38.56	1	1	1	6.25	9.3						
E1BP71	137.6	16	9	1	25	31.17	173.94	34	12	1	33.33	37.35
ERLN2	90.47	4	4	4	10.53	15.68	30.5	1	1	1	2.63	5.92
E1BQ33	85.51	2	2	2	5.88	9.22						
VDAC2	88.34	4	4	4	13.79	12.93	84.98	7	3	3	10.34	14.29
ABHEB	83.45	4	3	3	18.75	17.62	142.92	18	7	7	43.75	39.52
E1BA29	38.56	1	1	1	2	3.06						
H2A1	69.21	10	3	1	11.54	20.77						
ACSS3	65.27	3	2	2	2.9	4.08	101.14	9	5	4	7.25	9.33
PAHX	55.94	1	1	1	2.33	4.75						
G1K1G5	38.71	1	1	1	0.97	1.56						
E1BGA1							143.23	17	6	6	23.08	34.43
EFTU	123.93	7	7	7	13.73	16.59	87.44	2	2	2	3.92	7.3
DCXR	86.52	6	3	3	12.5	14.75						
A5D7M6							134.08	19	6	1	8.96	9.21
F1MTV9							47.42	3	1	1	2.38	7.27
F1MYP6							56.24	5	2	2	3.7	5.21
PLST	89.85	5	5	1	6.94	8.89	70.76	3	1	1	1.39	1.9
RS28							43.88	1	1	1	7.14	17.39
ROA2	90.43	2	2	2	5.13	9.09	60.52	1	1	1	2.56	4.69
F1N003	38.56	1	1	1	2	3.06						
F1MJK3	43.84	2	2	1	2.86	2.4						
GCDH	47.44	2	2	2	4.08	4.34	82.82	3	3	2	6.12	7.31

A0JN77	155.98	8	7	7	13.73	18.86					
HACD3	28.29	1	1	1	2.44	3.04	36.44	1	1	1	2.44	5.8
F1MT45	65.84	10	3	1	12	21.09					
HMCS2	165.22	23	13	13	24.07	30.12	217.23	55	18	16	33.33	42.32
CISD1							49.69	1	1	1	5.56	12.26
F1MV74	145.48	14	10	10	16.95	21.92	186.12	26	12	12	20.34	28.73
THIO	62.64	2	1	1	8.33	12.38	102.08	7	4	4	33.33	31.43
F1N2R1	48.58	1	1	1	16.67	18.75	68.42	2	2	2	33.33	56.25
CX7A2	37.1	1	1	1	7.14	12.05					
Q3ZC83							35.94	5	1	1	3.33	2.63
F1MPT9	55.62	3	2	1	7.69	12.02					
A6QLN7	67.76	3	3	3	4.76	8.44	93.01	5	2	2	3.17	4.5
F1MS05	113.93	10	9	9	9.78	14.33	192.69	20	10	10	10.87	18.14
F1N405	45.84	1	1	1	1	1.16	97.49	4	2	2	2	1.83
F1MZF3							49.87	1	1	1	3.23	8.12
PRDX6	133.93	11	8	8	25.81	42.41	162.35	24	11	11	35.48	62.05
UBC	66.06	2	2	2	2	2.61					
F6RFA2							144.38	91	11	2	61.11	44.44
BAF							53.2	3	1	1	7.14	13.48
F1MI18	43.84	2	2	1	2.33	1.91					
NPM							47.42	3	1	1	2.5	7.14
F1MV90	35.1	1	1	1	9.09	14.52					
E1B8H8	33.83	1	1	1	2	5					
PUR9	40.68	1	1	1	1.52	1.18	84.75	5	2	1	3.03	3.72
DHPR	66.64	3	3	3	13.04	21.49	122.51	12	4	4	17.39	28.1
F1N0Q7							80.84	3	2	2	2.5	3.45
F1MNF8							128.6	12	6	1	15	17.59
FAAA	95.45	5	4	4	13.33	11.93	148.48	19	7	7	23.33	28.16
E1BJ08	43.38	1	1	1	3.45	5.81	128.34	10	4	3	13.79	19.09
PRDX5	97.07	6	6	6	24	34.25	65.46	9	3	3	12	15.98
F1MX08	133.63	14	13	13	20.31	25.98	172.08	14	10	10	15.62	19.59
E1BB91	61.24	1	1	1	0.31	0.5	122.76	5	5	4	1.56	2.4
GNAT3	22.85	1	1	1	2.33	3.11					
RS16	77.92	4	4	4	13.79	25.34	34.87	2	1	1	3.45	6.85
ENTP5	59.92	4	3	3	8.82	7.41	108.49	5	4	3	11.76	9.95
F1MKG1	22.91	1	1	1	12.5	12.9						

CATB	63.98	2	2	2	7.69	8.66					
F1MLF8	105.56	8	6	6	15	16.33	184.55	45	17	17	42.5	48.53
HNRPF	35.96	1	1	1	2.56	4.11					
KAD2	94.59	7	4	4	11.43	21.16	168.05	19	8	8	22.86	43.57
F1MJC0							56	5	2	2	4.88	7.05
AP2A2	22.92	1	1	1	1.03	0.85	21.54	1	1	1	1.03	0.96
F1MF48	78.18	3	3	3	6	8.59	114.6	5	4	4	8	13.13
G1K167	61.6	3	3	3	7.89	10.66	61.48	4	3	3	7.89	12.7
RUXE							38.54	2	1	1	7.14	11.96
G1K1I4							60.49	3	1	1	5.88	8.44
CATA	200.03	80	25	25	43.1	42.31	256.79	146	36	36	62.07	63.19
F1MSV0	45.39	3	2	2	5.71	6.71	91.64	10	6	6	17.14	16.16
F1MKZ8	140.66	10	9	9	10.23	15.96	147.86	16	8	1	9.09	14.1
F1MLA4	57.95	1	1	1	3.7	5.31						
E1BIN4	56.99	1	1	1	2.38	6.85						
HNRPK	57.01	3	3	3	5.66	6.68	86.99	2	2	2	3.77	6.03
CFDP2	26.37	1	1	1	1.18	2.36						
TCPD	59.35	2	2	2	3.17	5.35						
F1N1X7	127.65	10	8	8	13.33	17.44	199.49	36	17	17	28.33	39.68
KAPCA							53.85	2	1	1	2.04	3.42
A6QQ11	79.77	7	7	7	10.14	13.4	66.1	3	3	3	4.35	8.13
SAR1A	28.04	1	1	1	4.76	5.56						
VIME	100.62	4	4	3	6.35	9.23	126.75	8	6	5	9.52	12.88
RHAG							27.23	1	1	1	3.85	2.11
F1MSQ7	44.43	1	1	1	2.56	3.17	112.39	8	4	4	10.26	21.83
MYL6	94.8	4	3	3	20	19.87	142.56	12	6	6	40	47.02
PGS2	28.41	1	1	1	2.56	3.06						
E1BIS9							39.85	1	1	1	2.5	3.29
COMT	123.4	7	6	6	22.22	39.71	109.05	9	3	3	11.11	22.06
A6H7H3	35.73	1	1	1	2.56	3.85	89.89	4	2	2	5.13	8.97
F1MXY8	78.92	3	3	3	7.69	9.12						
NMRL1	36.12	1	1	1	2.63	2.68						
E1BD83	52.89	1	1	1	2.5	4.4						
F1MVW5							69.25	3	1	1	1.41	1.69
A7E3T7	70.12	2	2	2	4.44	6.58						
E1B880	44.05	1	1	1	1.61	4.44	70.07	4	3	2	4.84	15.73

EHD1							30.62	1	1	1	1.45	1.69
F1MSW1	128.53	8	8	8	11.43	14.35	142.32	14	7	7	10	12.77
F1MHY9							37.42	2	2	2	5.88	9.52
ARLY	106.05	7	6	6	11.32	15.86	160.29	15	8	7	15.09	18.6
SAR1B	28.04	1	1	1	5	5.56						
CP2AX	22.47	1	1	1	25	61.11	42.72	3	1	1	25	61.11
F2Z4G6	61.03	3	3	3	5.56	7.81						
ODO1	49	2	2	1	1.92	2.05	52.28	2	1	1	0.96	1.96
A6QQT4	119.46	8	8	6	15.38	16.7	110.8	10	4	3	7.69	12.99
DHSA	123.77	10	8	7	11.59	12.03	131.17	15	6	6	8.7	9.32
Q17QK4	103.72	10	7	7	13.21	13.69	174.48	29	13	12	24.53	23.78
F1N2K1							98.03	5	3	3	6.67	11.39
F1N1P7							44.42	3	1	1	6.25	9.82
GNAO	22.85	1	1	1	2.33	3.11						
F1MPP7	178.75	34	19	19	30.16	39.86	237.59	81	21	21	33.33	50.26
F1MNG5	131.32	16	9	9	22.5	29.38	210.55	65	19	19	47.5	49.72
E1BFN6	142.86	13	8	6	14.81	23.06	224.77	46	22	20	40.74	55.81
F1N4U6	29.95	1	1	1	1.92	2.84						
G1K258	177.17	48	16	16	50	46.05	215.87	82	17	17	53.12	49.83
Q3SZK3	49.67	1	1	1	3.12	3.19						
EF1B							29.02	1	1	1	3.85	5.78
E1BD93	95.67	5	4	4	6.67	8.01	142.95	8	5	5	8.33	10.27
F1N7W0	66.01	2	2	2	6.9	6.36	69.4	4	2	2	6.9	6.67
AIBP							89.43	8	2	2	8	10.42
PLAK							32.27	1	1	1	1.54	2.42
S22A9							42.24	3	2	2	4.88	3.8
SC23A							69.25	3	1	1	1.39	1.69
F1MMR5	33.93	1	1	1	2.33	1.93						
METK1	70.12	2	2	2	4.88	6.57						
F1N5M2	86.97	4	4	4	6.9	12.24	72.62	3	2	2	3.45	4.01
ANXA6	186.52	24	12	12	12.77	20.36	242.58	70	28	27	29.79	47.1
F1MND1							46.31	1	1	1	4.76	6.95
GDIR1	22.75	1	1	1	3.45	3.92						
ANXA2	65.37	2	2	2	3.77	7.37	139.59	9	5	5	9.43	17.99
NDUV1	51.57	1	1	1	1.89	1.72						
GRP78	159.92	17	12	4	13.79	23.51	206.06	31	17	3	19.54	36.03

PYGB	57.95	2	2	1	1.85	2.85					
ERG7	58.47	1	1	1	1.47	2.05	112.37	8	3	3	4.41	4.92
PPIA	28.66	1	1	1	4.76	10.98	111.01	10	5	5	23.81	37.2
Q0V8D0	113.53	9	6	3	16.22	19.24	160.84	38	12	9	32.43	44.16
F1N1D5							60.62	3	2	2	3.85	7.09
G1K146							48.77	1	1	1	4.35	5.74
F1MEY2							23.14	1	1	1	2.7	3.49
G1K257	161	20	12	12	35.29	43.95	207.5	44	12	7	35.29	50.44
F1MR63	96.42	3	3	3	7.69	14.22	170.52	21	12	12	30.77	41.2
F1ME58							107.53	6	4	4	6.9	10.31
CQ061							40.5	1	1	1	14.29	24.78
MTND							43.28	1	1	1	4	6.7
CP3AS	61.57	3	3	3	5.56	5.33	107.5	10	4	4	7.41	9.27
E1BEA7	48.74	1	1	1	5.88	6.43	50.08	1	1	1	5.88	11.7
F1MF46	78.18	3	3	3	6.12	8.59	114.6	5	4	4	8.16	13.13
UD3A1	32.27	1	1	1	1.89	1.72						
E1BEG2	38.95	1	1	1	2.13	3.96						
COX5A	38.38	1	1	1	5.56	5.92						
ACOC	113.93	10	9	9	9.78	14.4	192.69	20	10	10	10.87	18.22
A5D9E8	48.49	2	2	2	5.41	8.36						
F1MNY7	106.5	7	7	4	6.6	9.53	151.22	13	7	1	6.6	10.42
F1N7K8	168.47	23	11	11	21.15	29.24	246.71	65	24	24	46.15	50.47
FIBB	79.68	3	2	2	3.39	6.2	134.72	8	5	4	8.47	11.54
E1BKY9	105.52	4	4	4	6.67	10.47	32.04	1	1	1	1.67	2
AOC3	137.9	9	9	7	15	12.77						
Q3SZZ9	110.19	5	5	5	11.63	13.79						
F1MTV7	106.05	7	6	6	11.32	15.82	160.29	15	8	7	15.09	18.57
DHE3							228.61	87	28	1	42.42	50.36
LUM	34.14	1	1	1	2.94	2.34	28.31	1	1	1	2.94	5.26
UGDH	144.5	11	10	10	16.39	27.94	190.61	33	14	14	22.95	37.25
EF1A1	122.19	6	6	1	10	12.99	163.28	18	7	1	11.67	20.13
GSTM1	130.13	20	7	1	24.14	32.57	190.54	65	13	2	44.83	56.88
F1MIN1	135.03	11	8	7	23.53	32.89	161.49	23	8	6	23.53	29.87
RADI							40.78	4	2	2	2.02	2.74
E1B7U2	141.48	11	7	5	22.58	32.74	150.7	17	8	7	25.81	38.5
CALM	132.58	5	4	4	28.57	36.91	128.65	10	6	6	42.86	59.06

RS10	52.51	2	2	2	7.14	14.55	38.77	3	1	1	3.57	5.45
A1AG	23.93	1	1	1	4	3.47	60.63	2	1	1	4	5.94
Q1LZF6	118.83	7	7	6	9.59	8.35	154.74	25	11	10	15.07	17.72
M2OM	82.2	2	2	2	5.71	7.01						
F1MES1	25.06	1	1	1	1.47	1.88	45.59	2	1	1	1.47	2.05
FIS1	46.47	1	1	1	3.85	7.24						
F1MWT1	65.64	2	2	2	3.57	4.25	74.87	2	2	2	3.57	6.95
F1N789	58.25	2	2	2	1.4	1.94	80.23	6	4	2	2.8	3.44
VDAC1	135.03	11	8	7	25	34.63	161.49	23	8	6	25	31.45
RL6	74.66	4	3	3	4.23	11.85	91.43	9	4	4	5.63	19.16
E1BL60	28.53	1	1	1	1.96	2.79						
F1N618	110.13	7	6	3	1.86	4.26	120.82	7	5	1	1.55	2.64
CK054	23.32	1	1	1	3.23	2.54						
G1K1S1							134.04	9	3	3	5	7.82
F1MX44	98.11	20	7	1	20.59	25.23						
CP2E1	157.84	25	12	11	20	24.24	214.13	56	17	15	28.33	34.34
PPIF	55.62	3	2	1	7.14	11.96						
G1K1Q5	56.77	1	1	1	1.72	1.98						
STT3A	39.11	1	1	1	1.61	1.28	21.75	1	1	1	1.61	0.99
E1BKV2	32.73	1	1	1	2.63	7.88						
F6QRM6	66.06	2	2	2	5.26	9.94						
F1N1N0	90.43	2	2	2	4.65	8.78	60.52	1	1	1	2.33	4.53
F1MK30							51.45	2	2	2	3.28	7.17
LGMN							26.77	2	1	1	2.38	1.85
PUR2	38.71	1	1	1	0.97	1.58						
E1BIL2							134.08	19	6	1	8.96	9.6
SPA31	86.02	4	4	4	9.3	10.95						
A7E3P5	63.39	3	3	3	13.04	11.49	77.47	5	3	3	13.04	10.47
F1N0R3							40.78	4	2	2	2.04	2.87
GLYC	117.37	9	7	7	12.96	19.42	161.94	19	7	7	12.96	20.04
F1MJ59							81.36	5	3	3	9.68	16.3
F1N1J3	40.9	1	1	1	3.03	6.36						
G1K165	60.53	2	2	1	6.06	6.73						
G1K173	57.25	3	2	2	6.45	7.07	51.93	1	1	1	3.23	4.24
CLH1							134.2	12	6	6	3.51	4.96
CAH2	25.94	1	1	1	4	3.46	86.4	3	2	1	8	12.31

A7MAZ5	97.65	4	4	4	7.02	9.5	101.28	7	3	3	5.26	9.5
TGM2	23.46	1	1	1	1.37	1.46						
RLA2	64.09	2	2	2	15.38	22.61	117.34	6	3	3	23.08	38.26
ACTG	194.61	35	15	2	40.54	42.93	218.92	75	18	1	48.65	54.93
CBR1	150.74	20	12	12	32.43	56.32	198.12	29	10	2	27.03	55.6
ILVBL							134.04	9	3	3	5.17	7.91
AL9A1	140.56	12	10	8	20	17.41						
A2MG							59.04	2	1	1	0.78	0.99
MGST3							60.49	3	1	1	6.25	8.55
PSB2							37.66	3	1	1	4.17	5.47
H17B6	133.97	11	7	5	20.59	26.18	156.14	29	10	8	29.41	36.28
G1K1L3	47.84	1	1	1	5	11.19	125.13	10	4	4	20	32.87
K2C8	146.38	14	9	7	14.06	17.57	215.51	45	19	14	29.69	36.19
F1N041							65.63	2	2	2	4.26	9.57
CDC42							46.31	1	1	1	4.76	6.81
HOT							73.65	3	2	1	4.88	5.15
CALR	75.08	4	4	1	9.3	7.91	140.12	15	8	7	18.6	21.82
GLO2	84.26	5	4	4	10.81	18.51	76.69	8	3	3	8.11	13.31
G1K184	41.99	1	1	1	2.63	2.4	51.46	1	1	1	2.63	4.08
UBE2N	49.28	2	2	2	10.53	19.74						
F1MUY2							144.76	18	10	1	14.29	15.94
E1BHR2	49.28	2	2	2	11.76	19.74						
F1N6C0	132.58	5	4	4	26.67	36.67						
Q861S4	54.04	1	1	1	2.63	9.38						
TCPB	56.54	1	1	1	1.54	4.11	57.6	2	1	1	1.54	2.8
F1MK09							54.96	2	1	1	3.03	4.98
Q3SZJ7	50	2	2	2	6.9	4.18						
ATPK	48.78	1	1	1	5.88	14.77						
G1K1C9	35.73	1	1	1	1.41	1.73						
ACON	111.08	6	6	6	7.06	8.46	36.04	1	1	1	1.18	1.15
F1MN49							51.23	2	1	1	6.25	7.41
F1MN08	28.66	1	1	1	5.56	11.69	111.01	10	5	5	27.78	39.61
THTR	150.65	11	7	7	20.59	33.33	192.34	40	13	12	38.24	45.79
Q3SZT2	33.35	1	1	1	4.17	8.66	110.2	4	2	2	8.33	16.02
F1MBI9	48.74	1	1	1	7.14	6.75						
FKB11	67.56	2	2	2	7.69	8.87						

PCCB	158.63	14	13	13	22.81	32.65	151.87	19	8	8	14.04	18.92
MDHC	51.45	3	2	2	4.76	7.49	81.47	3	3	3	7.14	12.57
A1A4M0	37.62	1	1	1	7.69	14.74	47.51	1	1	1	7.69	14.74
PPAC	29.2	1	1	1	4.76	6.96						
F1MY39							75.77	3	2	1	6.45	8.9
GNAS2	22.85	1	1	1	1.85	2.89						
F1N2W0	147.32	11	10	10	27.03	37.08	195.38	36	10	1	27.03	44.98
A8DC37							52.37	2	1	1	4.17	5.04
ISOC2	41.85	2	2	2	11.11	15.69	112.79	10	6	5	33.33	31.37
E1BFP2	37.1	1	1	1	7.14	9.62						
TM205							49.71	2	1	1	7.69	6.88
F1N150							38.54	2	1	1	7.69	12.09
F1MJJ8							40.78	4	2	2	2.02	2.74
F1MW68	40.33	1	1	1	3.7	3.29						
PRDX2							33.87	3	1	1	5	9.05
RAB7A	33.12	1	1	1	3.7	4.83						
ERG24	58.63	1	1	1	3.23	3.11						
F1N1Z7	55.61	2	2	2	2.9	4.33						
F1MUT3	35.8	1	1	1	0.68	0.9						
DHCR7							42.87	2	1	1	2.86	2.32
MOES	25.09	1	1	1	0.99	2.95	40.78	4	2	2	1.98	2.77
USMG5	25.82	1	1	1	11.11	25.86						
Q3T0U3	39.94	1	1	1	3.85	6.93						
F1MZW0							40.78	4	2	2	1.98	2.78
Q0V8F2	32.54	1	1	1	7.69	8.27	62.24	4	1	1	7.69	11.28
G1K1H4	161.12	11	9	9	23.08	34.67	193.73	26	12	11	30.77	46.99
E1BMH4	178.16	22	17	15	21.25	27.94						
A5PJQ6	30.09	1	1	1	4	3.59	95.45	10	3	2	12	13.9
THIL	164.05	11	7	7	15.56	24.17	194.46	39	11	11	24.44	40.28
F1MI11	92.49	4	4	3	9.09	8.9	130.64	20	7	7	15.91	16.4
G1K1Z1	58.79	2	2	2	5.71	13.04						
SURF4							36.74	1	1	1	5	5.95
F1MZC0	73.46	1	1	1	4	7.52						
E1BHA5	26.17	1	1	1	3.7	6.21						
ANXA3	59.76	2	2	2	4.08	7.74						
Q148D3	113.67	5	5	5	10.2	18.04	175.7	14	8	8	16.33	27.45

F1MLG7	72.71	4	2	2	4.08	3.7	71.88	3	3	3	6.12	7.39
EF2	99.62	7	6	6	5.71	8.62	105.93	11	5	5	4.76	8.51
F1MK89	151.47	19	9	8	26.47	29.78	182.25	34	14	13	41.18	45.79
AGT2							71.88	3	3	3	6	7.39
Q1RMR8	45.84	1	1	1	3.33	3.69						
OST48	58.71	3	3	3	7.89	6.61	31.58	3	1	1	2.63	2.05
Q17QG8	69.21	10	3	1	11.54	18.88	148.61	23	8	7	30.77	41.26
DDB1	25.29	1	1	1	1.05	0.88						
EFHD1	39.89	1	1	1	2.7	4.24						
TTHY	78.93	4	4	4	26.67	36.05	104.24	9	3	3	20	36.05
S14L2							56.24	5	2	2	3.7	5.21
Q1JPG7	119.96	5	5	5	9.62	13.69	69.12	3	2	2	3.85	4.75
E1BKZ1	66.05	2	2	2	3.45	5.01	43.56	1	1	1	1.72	2.31
F1MMX7							29.5	2	1	1	1.01	1.1
CBR4	27.86	1	1	1	3.33	5.49						
E1BC79	99.27	7	6	6	12.24	20	56	5	2	2	4.08	5.68
URIC	27.82	1	1	1	2.44	3.62						
RTN3	26.67	1	1	1	4.55	4.64						
F1MRG0	53.77	3	2	2	8.33	15.93	73.28	5	3	3	12.5	15.49
F1MDA1	117.33	8	8	8	7.34	10.29	130.56	11	7	7	6.42	9.73
RS3A	56.99	1	1	1	1.92	6.44						
F1N5J9	59.54	3	3	3	10.71	11.04						
F1MTJ9	58.47	1	1	1	1.47	2.05	112.37	8	3	3	4.41	4.92
TPM2							64.06	3	2	1	3.7	7.04
FIBA	42.59	1	1	1	1.39	1.46						
E1BGR6							52.6	2	1	1	3.03	7.95
A7E3S8	36.69	1	1	1	1.82	2.71						
F1MLV3							22.28	2	1	1	3.45	2.42
HINT2	89.57	3	3	3	18.75	31.9	89.3	6	4	3	25	26.38
GNAT1	22.85	1	1	1	2.27	3.14						
E1BI98	67.59	4	4	4	3.57	4.58						
E1BHJ6	32.73	1	1	1	5.88	16.49						
A6QQ83	34.91	1	1	1	5	6.45						
TPM3	35.1	1	1	1	1.89	3.17						
VDAC3	85.53	5	3	2	9.38	12.01	92.53	11	3	2	9.38	15.19
CH10	118.52	14	6	6	37.5	50	138.52	22	7	7	43.75	59.8

AT5F1	35.8	1	1	1	3.03	3.12	84.82	3	3	3	9.09	13.67
APOA1	119.23	5	5	5	12.82	21.51	137.41	8	6	5	15.38	23.4
F1MNX9							32.74	1	1	1	2.78	3.04
F1N7W6	33.93	1	1	1	2.5	1.97						
GGLO							65.63	2	2	2	4.26	9.55
HBB	188.88	76	16	16	88.89	66.9	220.53	171	24	15	133.33	82.76
ERP29	51.06	2	2	2	5.71	8.53	84.5	8	3	3	8.57	17.83
G1K1X0	91.58	4	4	4	8.7	8.96	72.26	2	2	2	4.35	4.38
TKT	102.86	5	5	5	7.35	11.24	89.16	4	3	3	4.41	6.42
LACTB							53.39	3	1	1	1.41	2.7
F1MJJ5	141.98	19	7	7	17.95	21.58	209.95	44	11	11	28.21	34.7
F1MN00	75.13	2	2	2	3.64	5.06	121.57	8	5	4	9.09	13.56
ECHD2	60.53	2	2	1	6.06	6.76	129.52	5	3	3	9.09	19.59
Q2KJJ2	148.26	19	13	5	27.66	31.4	219.24	73	23	7	48.94	54.2
F1MDN4							131.63	7	4	4	10.26	15.94
F1MUV3	48.74	1	1	1	10	8.87						
TMEDA	45.9	1	1	1	3.45	9.59						
F1MLB8	204.26	35	18	1	26.09	36.71	244.44	58	22	1	31.88	48.64
F1MQV8	65.27	3	2	2	2.9	4.08	101.14	9	5	4	7.25	9.33
AMPL	124.13	8	7	7	13.46	16.27	77.09	5	2	2	3.85	5.42
F1N2I5	88.27	2	2	2	6.9	14.69	96.01	11	4	4	13.79	24.49
E1B983	28.55	1	1	1	2.5	7.05	55	1	1	1	2.5	8.33
ACTB	194.61	35	15	2	40.54	42.93						
F1MMP5	62.17	2	2	2	2	2.87	38.83	1	1	1	1	0.88
F1N2V6	98.95	4	4	4	17.39	22.5	25.71	2	1	1	4.35	4
TPM3	35.1	1	1	1	2.13	3.63	82.82	6	4	3	8.51	15.73
E1BAB3							39.2	3	1	1	7.69	9
TECR	60.82	2	2	2	5.56	6.82						
ETFD	133.13	5	5	5	7.94	12.16	127.83	12	6	6	9.52	14.42
SODM	68.44	4	2	2	9.52	13.06	105.01	7	3	3	14.29	25.68
F1MRY9							203.09	35	17	16	12.5	14.56
G1K1P2							25.71	2	1	1	4.35	2.78
RS21	40.87	1	1	1	7.69	14.46	39.77	1	1	1	7.69	14.46
F1MCD3							64.49	3	2	1	3.45	3.96
F1N5W9							25.55	1	1	1	3.03	1.99
E1BAM7							53.44	1	1	1	3.12	7.59

HBA	182.8	57	20	20	142.86	61.97	244.78	152	29	29	207.14	76.76
ARF3							62.31	2	2	2	9.09	13.26
RS15A	32.31	1	1	1	4.55	6.92	29.06	1	1	1	4.55	6.15
F1MZP8	124.36	18	12	11	32.43	30.11	210.04	55	16	14	43.24	61.33
A6QP36	44.21	1	1	1	2.44	5.85	45.4	2	2	2	4.88	5.29
F1MFG7	68.69	2	2	2	5.56	7.9	106.73	6	3	3	8.33	17.87
F1N2Q0							80.93	4	4	1	2.19	3.71
NLTP	145.48	14	10	10	16.95	21.92	186.12	26	12	12	20.34	28.73
F1MUX4	102.86	5	5	5	7.35	10.8	89.16	4	3	3	4.41	6.17
E1BBB3	167.82	24	13	2	22.41	28.36						
E1BAR9	100.73	5	5	3	9.09	9.66						
ALDOB	141.98	19	7	7	17.95	21.7						
RL9	42.27	1	1	1	3.03	5.21						
A6H797	26.28	1	1	1	3.12	4.59						
PGM1	127.65	10	8	8	13.11	17.44	199.49	36	17	17	27.87	39.68
F1N5D3							45.59	1	1	1	2.7	1.92
QCR9							22.58	2	1	1	10	10.94
E1BI09							37.2	1	1	1	2.38	3.39
F1MMI5							65.63	2	2	2	4.44	9.57
CO1A1	72.33	2	2	1	1.67	1.57						
F1MR58	65.08	3	3	3	6.52	8.24	67.68	6	3	2	6.52	8.24
A5PKM0	131.5	20	7	1	24.14	31	187.45	66	13	1	44.83	54.15
A0JND6	58.47	1	1	1	1.56	2.2						
F1MLZ3							52.27	1	1	1	2.44	3.19
E1B7L1	86.9	4	4	2	12.9	18.52	119.28	17	6	2	19.35	33.33
MPCP	65.08	3	3	3	7.32	8.59	67.68	6	3	2	7.32	8.59
RL23							64.63	3	2	1	7.69	14.29
RL27A							26.01	1	1	1	3.03	6.76
F1MET3							53.2	1	1	1	1.47	1.48
F1MAV0	79.68	3	2	2	3.39	6.17						
G1K1M0	28.66	1	1	1	6.67	11.32						
Q3T172	48.41	1	1	1	2.86	2.02	159.71	16	8	7	22.86	21.9
Q3T0V2	96.42	3	3	3	8.33	15.82						
F1N7D2	32.27	1	1	1	1.89	1.72						
F1MMR6	81.72	5	4	4	10.81	10.92	155.3	20	10	10	27.03	32.52
Q0VC97							62.02	4	2	1	5.56	9.39

F1MXY2	36.37	1	1	1	5.26	6.45						
F1N6K1							45.59	1	1	1	2.7	1.98
A1A4L7	131.42	13	8	6	26.67	43.58	152.55	17	6	3	20	29.82
Q3ZBD1	36.69	1	1	1	4.76	6.36						
ESTD	57.25	3	2	2	6.67	7.09	51.93	1	1	1	3.33	4.26
F1MSY5	56.88	2	2	2	5.26	6.73	81.91	4	2	2	5.26	8.42
A1AT	41.99	1	1	1	2.63	2.4	51.46	1	1	1	2.63	4.09
HPPD	122.6	10	7	7	14.89	22.65	194.35	40	15	14	31.91	52.42
TBA1D	105.88	8	6	6	15	18.14	116.23	10	6	1	15	17.48
A5PJE3	42.59	1	1	1	1.41	1.46	108.64	3	3	3	4.23	6.18
ATP5L	49.66	2	2	2	16.67	31.07	39.2	3	1	1	8.33	8.74
F1MCW4	32.73	1	1	1	2.38	8.56						
E1BB71	28.55	1	1	1	2.56	7.05	55	1	1	1	2.56	8.33
HEBP1	56.76	1	1	1	4.35	6.28	157.35	14	9	9	39.13	46.07
ECHM	177.17	48	16	16	50	46.21						
GLRX1	22.91	1	1	1	9.09	11.32						
A6QL68	41.55	1	1	1	2.17	5.87						
GFRP							21.52	1	1	1	10	11.9
MGST1	36.37	1	1	1	5	6.45						
PHB	125.39	7	7	7	24.14	31.25	174.89	15	10	6	34.48	54.41
FUCM							44.42	3	1	1	6.67	10.46
F1N049							68.12	5	2	2	4.65	5.97
FXRD1	26.61	1	1	1	2.08	2.26						
RET4							105.45	7	3	3	12	16.94
E1BGU7	56.88	2	2	2	5.41	6.76	81.91	4	2	2	5.41	8.45
F1MB84	69.05	4	3	3	8.33	10.79	118.58	9	4	4	11.11	14.29
OCTC	43.1	1	1	1	1.52	1.31	67.97	3	2	2	3.03	5.23
RS7	36.24	1	1	1	2.86	11.34	46.8	3	1	1	2.86	6.19
PHS	47.84	1	1	1	7.69	15.38	125.13	10	4	4	30.77	45.19
F1MUP4	65.72	3	3	3	6.12	6.02	53.63	2	1	1	2.04	2.06
F1N3K8	45.9	1	1	1	3.23	9.33						
F1MFZ8	53.27	2	2	2	4.35	3.11						
F1MGY7	97.03	5	5	5	6.58	11.58	68.19	5	2	2	2.63	2.93
K2C5							134.08	19	6	1	8.96	9.15
A6QR14	37.04	1	1	1	1.75	1.74						
F1N5P4	35.73	1	1	1	2.5	3.14						

F1MAZ7							73.65	3	2	1	4.88	5.12
GALK1	124.99	6	6	5	17.14	20.15	88.16	5	3	3	8.57	7.65
PHB2	116.91	6	5	5	12.2	17.39	114.9	7	3	3	7.32	12.71
E1BKU3	43.38	1	1	1	5.26	9.86						
PSA6	49.18	2	2	2	6.9	10.98						
ACTH							168.18	35	10	1	27.78	26.86
E1BEB5	23.93	1	1	1	4	3.43	60.63	2	1	1	4	5.88
OLA1	32.54	1	1	1	1.92	2.78	62.24	4	1	1	1.92	3.79
E1BHL1	68.44	4	2	2	10.53	13						
FAHD2	78.92	4	4	4	13.33	15.29	129.25	5	3	3	10	14.65
MPPA							44.63	2	1	1	1.89	3.24
ETHE1	37.61	2	2	2	8.7	6.69	105.52	7	4	4	17.39	27.95
CPT2	167.53	15	14	14	19.44	23.25	140.63	13	7	7	9.72	12.31
E1B8B0							47.42	3	1	1	2.94	8.24
F1ML89	294.8	173	77	75	50	49.73	360.9	431	102	99	66.23	61.42
F1MWC2	85.26	6	5	3	12.2	15.79						
S10A2							30.5	1	1	1	9.09	9.28
MUTA							143.83	15	8	1	9.2	12.8
VATA	28.26	1	1	1	1.52	1.94						
A4FV90	153.99	12	11	11	12.36	22	186.38	20	14	13	15.73	24.43
F1MWR3	145.52	9	6	6	16.67	28.53	176.5	19	10	10	27.78	40.24
GNA11	38.56	1	1	1	1.96	3.06						
Q2KIF2	31.71	1	1	1	3.45	2.89	23.04	1	1	1	3.45	2.6
CAH3	125.48	9	6	6	20.69	23.46	203.94	26	12	11	41.38	49.23
E1BA06							37.37	1	1	1	14.29	13.92
Q3ZBT8	38.85	1	1	1	5.88	5.22	30.73	3	1	1	5.88	5.65
F1MCM8	32.49	1	1	1	2.94	4.32	40.77	2	2	2	5.88	7.97
F1MMA7	113.74	4	4	3	12.5	12.96	128.06	10	4	3	12.5	13.8
F1MVP1	63.34	2	2	2	20	22.64						
F1MBU5							56.59	1	1	1	1.49	1.98
E1BCK5							39.2	3	1	1	9.09	8.74
ATP5I							80.7	4	2	2	13.33	33.8
E1BH17	130.13	20	7	1	26.92	33.33						
ACMSD	31.85	1	1	1	2.63	5.36						
F1MDR3	45.34	1	1	1	1.75	3.34						
Q3MHG3							72.6	4	2	1	5.88	6.4

PSA4	43.02	2	2	2	5.41	6.9					
E1BG13	39.08	1	1	1	1.54	4.76	39.89	1	1	1	1.54	4.76
ISOC1	68.59	2	2	2	7.41	9.06	50.93	3	1	1	3.7	4.7
E1B8G4							53.44	1	1	1	3.45	7.59
A4FUD0	126.15	6	6	6	6.19	8.88	107.55	13	4	4	4.12	6.52
SCPDH	24.61	1	1	1	2.33	1.86						
GALM	123.47	6	5	5	16.13	23.39	98.94	4	4	4	12.9	14.91
F1MKS3							74.46	6	3	3	7.69	8.14
KAD2	94.59	7	4	4	11.76	21.79	168.05	19	8	8	23.53	44.87
F1MHC8	139.15	12	8	3	14.04	14.37	206.66	61	16	5	28.07	25.9
F1MNA6	126.28	8	7	7	11.67	18.13	127.79	8	6	5	10	16.88
ATPO	108.98	5	4	4	13.33	17.37	146.1	15	6	6	20	39.44
BHMT1	96.84	4	3	3	6.52	8.85	160.62	25	11	11	23.91	33.91
RL7	44.05	1	1	1	1.59	4.44	70.07	4	3	2	4.76	15.73
E1BED6	28.55	1	1	1	2.5	7.05	55	1	1	1	2.5	8.33
F1MCB3	36.09	2	2	2	9.52	7.85	28.05	2	1	1	4.76	4.19
MPCP	65.08	3	3	3	7.32	8.56	67.68	6	3	2	7.32	8.56
F1MKW5	48.78	1	1	1	5.88	13.83	85.9	8	2	2	11.76	25.53
F1MKS7	39.22	1	1	1	2.33	2.12						
E1BB28	100.39	4	4	4	4.35	6.64						
F1N1M7	167.53	15	14	14	19.44	23.25	140.63	13	7	7	9.72	12.31
PNPH	97.91	4	4	4	15.38	26.64						
QCR1	91.58	4	4	4	8.7	8.96	72.26	2	2	2	4.35	4.38
F1MKX8							27.23	1	1	1	3.85	2.11
TMED9							39.46	2	1	1	3.23	4.26
AL8A1	142.98	13	8	8	15.69	19.71	185.53	30	11	11	21.57	31.21
RS9	66.55	3	3	3	6.67	12.89	48.84	4	3	3	6.67	13.4
ARF1							62.31	2	2	2	9.52	13.26
H2AV	65.84	10	3	1	12.5	21.09						
E1BDJ0							50.08	1	1	1	6.25	11.9
A6H7D3	141.44	14	9	8	16.36	26.92	170.02	40	12	10	21.82	27.6
ARGI1	169.82	13	10	10	29.41	41.3	208.08	29	15	15	44.12	61.49
AMPL	124.13	8	7	7	12.5	15.61	77.09	5	2	2	3.57	5.2
DDAH1	98.95	4	4	4	12.12	15.79	25.71	2	1	1	3.03	2.81
NHRF3	22.44	1	1	1	1.49	1.54						
CATZ	40.33	1	1	1	3.7	3.29						

G1K1L6							96.16	4	3	3	10.71	19.16
F1MW47							116.98	18	5	1	9.8	9.43
ANXA4	166.35	24	12	12	25.53	41.69	228.28	49	19	19	40.43	63.95
FXRD1	26.61	1	1	1	2.44	2.93						
F1MHB8	103.54	5	5	5	19.23	18.73	83.38	5	2	2	7.69	8.36
F1MDJ6	93.16	2	2	2	2.15	2.75	155.92	14	8	8	8.6	11.84
MTP	117.33	8	8	8	7.34	10.37	130.56	11	7	7	6.42	9.81
TPP1	88.88	4	4	4	10	10.3	143.33	10	6	6	15	17.76
F1MCC1	137.9	9	9	7	14.75	12.77						
NADC	103.54	5	5	5	19.23	18.73	83.38	5	2	2	7.69	8.36
F1N6I4							110.29	7	3	2	9.38	14.81
ATPA							250.44	59	22	1	31.88	48.64
RS18	48.17	2	2	2	5.56	11.84						
GLCTK	62.23	2	2	2	5	4.97	91.66	5	3	1	7.5	6.88
ACADM	160.66	11	9	9	17.31	31.59	201.93	37	15	15	28.85	46.08
A6QPD5	121	8	8	6	14.55	15.69	158.72	19	10	6	18.18	23.25
HEM2	133.84	10	7	7	21.21	23.1	152.41	13	8	8	24.24	31.91
TAGL2							48.77	1	1	1	4.35	6.03
ODPB	25.32	1	1	1	2.94	2.23						
E1BHJ0	42.32	1	1	1	6.67	11.43						
VKOR1							50.59	1	1	1	5.88	6.75
E1BK74							91.66	5	3	1	5.36	6.99
G1K1U7	125.39	7	7	7	23.33	30.91	174.89	15	10	6	33.33	53.82
NSDHL	112.22	6	6	6	17.14	22.19	130.24	10	6	6	17.14	23.31
H2A2C	69.21	10	3	1	11.54	20.93						
PRDX5	97.07	6	6	6	31.58	46.3	65.46	9	3	3	15.79	21.6
F1MDX5							33.51	2	1	1	4	5.06
RAP1B	63.94	3	2	2	8	12.5	83.57	2	2	2	8	14.13
PYC	155	17	16	16	12.9	18	177.25	20	12	12	9.68	15.03
COX41							79.48	4	3	3	11.11	19.53
CNDP2	45.34	1	1	1	1.85	3.37	80.99	3	2	1	3.7	4.42
ACADS							227.69	67	21	1	45.65	64.56
ATOX1	69.57	2	2	2	25	20.59						
ACPM	34.7	1	1	1	5.88	6.41						
F1MDW8	38.92	1	1	1	2.63	8.06						
TPM2							64.06	3	2	1	3.7	7.04

F1MHF7	30.38	2	1	1	8.33	7.32	63.99	5	2	2	16.67	15.45
XDH	35.8	1	1	1	0.68	0.9						
HS90B	100.59	3	3	1	2.83	5.11						
F1MHK6	39.08	1	1	1	1.54	4.55	39.89	1	1	1	1.54	4.55
F120B							28.14	1	1	1	1.47	1.43
MIF	41.63	1	1	1	12.5	18.26	74.27	8	3	3	37.5	35.65
F1MCS9	48.53	2	2	2	8.7	15.83	116.55	11	5	2	21.74	30.83
GBLP							25.55	1	1	1	3.23	2.21
F1MUN0	54.04	1	1	1	2.5	9.26						
F1MM57	69.69	3	3	1	0.94	1.23	81.55	3	3	1	0.94	2
F1MGW0	72.33	2	2	1	1.65	1.63						
ACTA							168.18	35	10	1	27.03	26.79
E1B773	22.91	1	1	1	7.69	11.43						
G1K1Z3	143.58	8	6	6	15	26.85	144.83	14	6	6	15	28.02
RL17	32.73	1	1	1	2.44	8.7						
ADT3	96.61	7	6	2	13.95	19.46						
F1MNZ2							68.59	3	2	2	6.25	8.31
HBBF							144.38	91	11	2	61.11	49.66
CYC	48.53	2	2	2	9.52	18.1	116.55	11	5	2	23.81	35.24
F1ME86	23.93	1	1	1	3.85	3.45	60.63	2	1	1	3.85	5.91
PRDX4	33.64	1	1	1	3.45	2.92	70.4	5	3	2	10.34	12.41
F1ML12							32.42	1	1	1	2.5	3.85
K1C17							88.29	8	5	2	9.43	8.39
RL3	46.65	2	2	2	2.35	4.22						
F1MJE3	57.95	2	2	1	2.25	3.17						
F1N690							41.9	1	1	1	1.54	2.63
F1MQP2	77.62	3	3	3	4.11	6.41	103.96	3	3	3	4.11	6.09
DHRS4	132.6	14	7	7	21.88	25.81	157.94	18	8	8	25	38.71
MDHM	161	20	12	12	35.29	44.08	207.5	44	12	7	35.29	50.59

Protein accession #: the accession number of the protein in the database

Score: PEAKS protein score

 # Spec: the number of spectrum on which this protein has been detected

 # Pep: the number of supporting peptides of the proteins

#Uniq: number of unique peptides of the protein

% Spec: the ratio of detected peptides to the theoretical numbers

% Cov: the number of amino acids spanned by assigned peptides divided by protein length x 100.

Table 4: List of peptides identified from RP-RP and IEF-RP fractionated samples using PEAKS v 6

	RP-RP Pooled Sample				IEF-RP 100 µg Sample			
Peptide Sequence Plus PTM	**M/Z**	**RT**	**-10logP**	**Z**	**M/Z**	**RT**	**-10logP**	**Z**
VFLENVIR	495.30	31.34	46.19	2	495.32	24.47	44.69	2
VALVTASTD(+21.98)GIGF	636.84	48.23	26	2				
EQGYDVIAYLAN	678.33	51.58	26.52	2				
TNAENEFVTIKK	465.26	14.45	24.38	3	465.27	12.33	62.54	3
IDAAAPLEK					464.26	12.57	40.86	2
SISISVAR					416.72	13.01	30.26	2
GFGLVEHVLGK					578.38	24.52	50.59	2
FDDENFILK					570.81	26.58	51.5	2
FENAFLSHVISQHQALLSK					723.74	33.16	80.45	3
AEELGLPILGVLR	690.42	56.04	38.68	2	690.42	53.37	64.46	2
EGMAAFVEK					491.24	14.45	48.83	2
NHGVVMPDANKENTLNQLVGAAFGAAGQR					745.64	38.91	62.21	4
GYISPYFINTSK					695.34	25.81	52.42	2
STGSVVGQQPFGGAR	724.39	17.89	50.48	2	724.39	13.36	63.15	2
LPPGPTPLPILGN					643.36	42.67	26.25	2
LPLPPGAFSGLWK					691.88	45.36	42	2
IFDANTKPNLNLQVLSNPEFLAEGTAIK	1019.92	62.13	28.49	3	1019.92	49.80	50.75	3
PSYVLSGSAMNVVFSEDEMK	730.70	48.64	43.59	3	1095.55	44.76	59.1	2
EVAFW(+31.99)NELLSR	698.37	39.11	31.21	2	698.36	45.67	30.75	2
WIDIHNPATNEVIGR					579.01	25.47	78.03	3
DLENAQFSELQVEQQPPPIK					1155.63	35.47	61.47	2
DHLLLATM(+15.99)EAM(+15.99)N(+.98)GGK	545.27	18.37	46.17	3	545.29	13.92	43.06	3
FLPLFDR	454.26	37.85	33.59	2	454.28	30.56	29.78	2
HLSSGDLLR	499.28	13.15	44	2				
WQNNLLPSR	564.32	24.24	32.31	2				
SDDVINASGYR					598.80	12.92	55.39	2
A(+57.02)CADPAAGSVILLENLR	590.66	46.84	33.66	3				
ANIIFNTSLGAIFGVK					832.97	54.83	70.16	2
TGEHDFGAAFDGDGDR					556.26	14.08	50.89	3
ELVPNIPFQMLLR					785.46	55.54	44.38	2
GLVALITGGASGLGLATAER	609.69	54.46	99.68	3	914.03	48.92	75.96	2
EIISFGSGYGGNSLLGK					849.96	35.73	68.25	2

EVAAFAQFGSD(+21.98)LDAATQQLLSR	787.41	64.41	31.53	3				
TALLDAAGVASLLTTAEVVVTEIPKEEK	717.92	66.65	55.2	4	956.89	63.34	48.37	3
LIDAETTASAWPNVAK					843.96	26.88	61.97	2
VLPGSSMLFLC(+57.02)DMQEK					927.97	42.66	43.12	2
GSEEPPVFLEIHYK	548.97	34.68	62.7	3				
YTPEQVAM(+15.99)ATVTALHR	602.00	49.96	43.97	3				
IILLFDAHK					535.36	22.39	30.62	2
ADLINNLGTIAK	621.87	33.35	53.78	2				
VTIAQGYDALSSM(+15.99)ANIAGYK	697.04	42.39	25.04	3				
GGGGGGYGSGGSSYGSGGGSYGSGGGGGGGR					1192.55	11.95	63.52	2
YALSVGYR	464.76	19.87	36.35	2	464.75	14.76	39.51	2
VPSTEAEALASSLMGLFEK	660.69	66.15	53.26	3				
DLVNMLFYHDR					474.91	38.52	51.02	3
VLWEDPAR					493.27	16.55	36.26	2
AALSELHC(+57.02)DK	572.29	23.26	25.05	2				
SNIDNM(+15.99)FESYINNLR	615.98	46.32	43.67	3				
IYEWIPQNDLLGHPQTR					694.04	33.14	37.88	3
VTHAVVTVPAYFNDAQR	630.00	27.72	56.93	3	629.99	20.73	53.71	3
IEDGVPQHLVLFLGGK	574.67	43.40	50.95	3				
AQIPVIAVESDK	635.37	26.95	42.81	2	635.36	20.17	42.29	2
LILIESR	422.28	21.66	26.87	2				
TVTNAVVTVPAYFNDSQR	661.36	37.56	38.11	3				
LLLPGELAK					477.31	22.98	25.52	2
GPAVGIDLGTTYSC(+57.02)VGVFQHGK					755.06	33.10	60.08	3
ILLLGAGESGK	529.33	25.89	22.85	2				
APMFSW(+31.99)PR					512.26	26.28	31.43	2
DAFLGSFLYEYSR	784.39	56.32	46.37	2	784.37	50.32	67.02	2
IFYYIDSLSYSVDAFDYDLQTGK	908.46	64.89	53.21	3				
LQVELDNVTGLLTQSDSK	654.03	49.39	58.6	3				
QLIVGVNK	435.79	15.06	27.42	2				
LMNESLMLVTALNPHIGYDK					753.72	44.87	58.47	3
GDFWVLGDR					532.79	32.01	43.32	2
LMQFQGLK					482.77	17.96	26.77	2
IEFEGQSVDFVDPN					798.38	40.92	46.36	2
IIQATLSR	451.28	14.28	28.96	2				
VLDELTLTK	516.31	26.40	23.9	2	516.33	19.18	46.58	2

S(+42.01)FVPVAEDSDFPIHNLPYGVFSTR					912.81	58.56	25.26	3
DALLFPS(+27.99)FIHSQK	510.96	54.96	27.33	3				
AGASFNPELLTNVLDGSPENTR	768.07	52.17	30.23	3				
VSMELGGHAPFIVFDSANVDQAVAGAMASK					1007.21	51.25	54.31	3
LPFPPSYVPVMFSELSDR	694.37	65.27	52.18	3	694.36	61.35	59.05	3
KTVTAMDVVYALK					719.92	27.24	68.66	2
ITLPAPNPDHVGGYK	526.97	23.54	37.83	3	526.98	16.34	58.81	3
VEGFPTIYFAPSGDK	814.43	44.31	41.32	2	814.42	37.87	56.85	2
VTVDAPVSS(+27.99)VALR	671.39	29.69	26.4	2				
VFDKDGNGYISAAELR	585.64	27.02	37.8	3				
FFADLLDYIK	622.85	60.09	43.24	2				
VFHLPTTTFIGGQESALPLR					728.75	40.96	52.28	3
AVYIFAK	406.25	21.29	31.73	2				
QHLQIQSTQSSLNE(+21.98)VIQNLAATK					858.48	39.66	31.59	3
RPLPR					638.34	26.81	22.92	1
IIAVDINK	443.29	18.45	34.72	2	443.28	14.15	33.04	2
KEPLFGISTGNLITGL					830.49	49.42	38.81	2
VVNVSSIM(+15.99)GR	539.30	15.17	28.22	2				
VPTPNQQPEVLYNQIFINNEWHDAVSK					1060.89	43.67	42.4	3
DLQMVNISLR	594.86	39.41	32.83	2				
DAISGIGTDEK					553.28	12.75	54.46	2
DVGILAMEVYFPAQYVDQTELEK	886.80	65.59	56.14	3	886.78	60.71	80.33	3
STFTVAQNELFEAHYAK	652.67	33.14	47.78	3				
EYGGLDVLVNNAGIAFK	890.48	53.74	44.87	2				
VKEDEDDKTVSDLAVVLFETATLR	674.13	61.11	54.36	4	674.10	61.98	46.18	4
AWNIMVLK					487.81	30.63	40.88	2
YTPEQVAMATVTALHR	596.66	56.97	32.91	3	596.71	36.54	71.74	3
VSHLLGINVTDFTR	524.64	38.21	44.96	3	524.67	30.52	55.04	3
EFFVGLSK	463.77	29.86	40.76	2	463.76	22.90	25.71	2
YDLGGLVMVK					547.83	31.76	46.81	2
ALC(+57.02)VDTSLDVFK	684.36	41.46	41	2	684.34	35.67	50.53	2
GMSLNLEPDNVGVVVFGNDK					1052.55	47.46	47.47	2
NDPIVSSLPTDVK					692.87	22.08	64.06	2
VNPLGGAVALGHPLGC(+57.02)TGAR	639.69	30.87	23.44	3	639.67	23.37	38.38	3
TAAAVAAQSGILDR	672.38	20.80	55.22	2	672.37	15.15	70.39	2
FLLPVPQLK					527.88	38.40	23.04	2

LEKEEQIPDGMC(+57.02)IDVEGK					697.33	21.67	43.85	3
LYPPVPVISR					570.90	25.04	41.17	2
VLSSM(+15.99)TDAVLAR	639.85	18.37	39.84	2	639.84	13.81	44.94	2
IGVAIGDQILDLSVIK	827.50	57.27	42.17	2	827.50	53.86	71.16	2
LIGDSVDLC(+57.02)HTWEALEK					662.67	38.50	33.22	3
GLTLLGGPAPNTGAALEFVLR					689.74	55.45	50.39	3
LLIEHQGISFLLAEM(+15.99)AM(+15.99)K	692.72	44.12	27.02	3				
LNPNFLVDFGKEPLGPALAHELR					637.60	46.24	29.99	4
ENMQVFDFELTPEDMK					986.96	47.33	59.28	2
IVSGLGLAWIVGR					670.91	46.80	60.49	2
FSSPTTIATVM(+15.99)NLSK	806.92	31.05	22.99	2				
ALASLM(+15.99)TYK	507.28	17.32	29.95	2	507.30	13.13	29.93	2
AFTGYLGTDQSK	644.33	20.07	43.12	2	644.30	14.95	51.93	2
LVVMQPEK	472.27	14.44	34.14	2				
AALAGGTTM(+15.99)IM(+15.99)DFAIPHK					626.34	24.01	40.11	3
LTLSALIDGK	515.82	40.22	49.47	2	515.85	31.94	54.19	2
LSSFIGAIAIGDLVK					752.44	51.30	57.6	2
GLLLITGR	421.78	28.71	31.98	2				
AQIFAN(+.98)SVDNAR					653.82	14.14	38.15	2
LIIDVIR	421.29	32.66	34.78	2	421.28	25.67	30	2
VLVPLLLPEK	560.88	44.88	28.84	2				
MTDSFTEQADQVTAEVGK					978.96	27.02	66.93	2
STVFGTALNYVSLR					764.44	41.20	67.87	2
TIDDLKNQILNLTTDNANILLQIDNAR					1018.30	60.31	54.35	3
DILLRPELEELR	499.30	39.13	31.28	3	499.31	32.35	34.7	3
M(+15.99)EYDGLLIAGGPGNPALAQPLIQNVK	899.17	53.21	50.44	3				
KVPQVSTPT(+27.99)LVEVSR	556.66	25.03	40.99	3				
ELTTEIDNNIEQISSYK					999.02	35.49	60.67	2
DQEGQDVLLFIDNIFR	641.35	67.15	58.66	3	961.51	64.09	56.92	2
DHLLLATMEAM	622.82	46.73	34	2				
S(+42.01)SSAM(+15.99)PDVPAPLTNLQFK	654.35	50.34	29.98	3	981.01	44.24	39.06	2
TSIDAYDNFDNISLAQR	648.33	41.26	36.72	3				
NS(-18.01)NVGLIQLNRPK	478.95	18.09	34.94	3				
Q(-17.03)ADTVYFLPITPQ					738.40	62.66	22.79	2
ALIEILATR	500.32	35.39	47.48	2	500.32	28.57	43.17	2
AYIDKVEELK					403.24	14.05	36.31	3

AFAISGPF	405.22	45.12	28.32	2				
LQGAQMLQMLEK					695.37	33.58	44.5	2
SLDLDSIIAEVK	651.88	52.85	51.4	2	651.84	46.36	62.26	2
SIYFQPPSFYVSAQDLPR					705.70	47.59	59.81	3
AENAC(+57.02)VPPFTVEVK					780.90	24.41	31.61	2
FGLGSIAGAVGATAVYPIDLVK					1060.19	57.26	59.79	2
TALHMGSLIK	535.81	18.73	35.03	2				
AITIFQER	489.29	23.32	40.86	2	489.28	17.59	39.47	2
VISHAISEHVEDAGVHSGDATLMLPTQTISQGAIEK					936.24	29.12	57.41	4
SYELPDGQVITIGN(+.98)ER					896.45	37.25	39.2	2
PAVTLLGDVNAVTK	699.42	35.87	26.28	2				
VGNLTVVAK	450.80	13.88	53.67	2				
CIP(sub T)VGESDGSIWNPDGIDPK					1050.02	48.46	30	2
EKGEFQLLLDALDK	540.31	50.23	29.56	3	540.32	45.16	34.97	3
LLVPYLM(+15.99)EAVR					660.36	34.98	32.19	2
C(+56.03)MALSTAILVGEAK	731.88	49.04	23.11	2				
ELFDELVK					496.78	29.09	37.54	2
GGLLMLENFIGGK	674.88	54.97	39.81	2	674.87	49.01	59.94	2
FFVGGNWK					477.75	21.21	31.89	2
LVSDYMAK	463.74	14.92	31.12	2	463.75	12.64	37.63	2
LLSHSLLVTL					548.38	34.30	25.22	2
LFQVEYAIEAIK	712.41	47.27	29.37	2	712.41	41.50	49.58	2
SVQLDGLVWGSSK					688.37	31.43	41.63	2
DFFSVILK					484.79	45.58	32.02	2
AFTSQASATMYLPATIGDYTDFYSSR					955.48	54.28	56.45	3
TALHM(+15.99)GSLIK	543.81	11.98	23.31	2				
SELSGDLAR					474.25	12.22	33.07	2
G(+57.02)CASTGVIMSVNNSLYLGPILK					765.40	47.82	28.67	3
VLYPNDNFFEGK	721.86	34.84	40.52	2	721.87	27.88	47.27	2
KIEDLGAAMEEALILDNK	658.36	49.92	28.16	3				
NLGADAVGM(+15.99)STVPEVIVAR	639.02	36.99	32.44	3				
LREEGHEVVGVFTVPDKDGK	553.56	20.04	76.59	4				
VHQILEGSNEVM(+15.99)R	509.94	12.43	48.99	3				
FLLDGDEVIMTGH	723.86	45.75	31.05	2				
MELQEIQLK	566.32	28.13	35.1	2	566.34	21.27	40.05	2
MAATFIGNSTAIQELFK					921.49	48.71	56.12	2

YLGPAVLMQAYR					691.36	34.42	69.61	2
DVFVAIVQSVK	602.83	45.93	40.63	2	602.88	39.40	48.15	2
VLDSFSN(+.98)GMK	549.78	21.36	39.23	2	549.78	16.40	38.81	2
ASTVGLPTVLEK	607.86	29.20	29.81	2				
WNQFYSEVLGR					699.85	31.40	56.93	2
TDSVAAATEWVK	639.34	27.48	25.99	2	639.33	20.22	55.76	2
A(sub S)NMIASALAQIPQK					728.39	34.20	30.66	2
NSIPFELR	488.28	27.71	25.63	2				
HPEYAVSVLLR	428.59	26.36	45.78	3				
AGLILFGN(+.98)DGR	567.32	39.96	29.22	2	567.32	32.71	35.15	2
IVGYFVSGC(+57.02)DPTIM(+15.99)GIGPVPAISGALK					912.49	52.40	21.81	3
ASGTNDKPGGPHYVLR	417.99	11.75	46.51	4				
LADLLEQSLEELAQAESK	994.02	63.72	68.04	2	994.05	60.80	68.28	2
FTPGTFTNQIQAAFR					849.94	38.93	68.85	2
QHLQIQSSQSSLNEVVQNLAATK					841.81	32.94	48.24	3
HFVGYPTNSDFELK	551.95	28.60	41.09	3	827.41	21.56	60.07	2
GNLANVIR	428.77	15.20	38.74	2	428.77	12.82	30.26	2
LGVSLVLSAR	507.83	33.45	37.91	2	507.85	25.08	54.44	2
MQLWAEILPTK					665.35	41.31	49.17	2
LSAPFISQFYK					650.85	37.22	24.26	2
ASITPGTILIILTGR					763.46	58.11	50.24	2
GAEILADTFK	532.80	27.87	48.69	2				
ALQPTIFPVVPR	669.41	40.17	55.73	2	669.38	33.54	56.83	2
GLC(+57.02)GTVLIHK	549.32	15.48	32.27	2				
VLGTSVESIM(+15.99)ATEDR	812.41	24.47	51.16	2	812.40	17.39	63.27	2
GISAFLVPMPTPGLTLGK					600.39	53.43	59.58	3
VSALSVVR	415.76	15.96	30.39	2				
YLPGPQQQAFK	638.85	19.21	22.47	2	638.84	14.26	42.72	2
LISYSYMPR					565.34	18.92	34.84	2
RPPDAVLTDTTSLNQAALYR	734.75	33.80	46.72	3	734.74	26.60	50.61	3
FPLFGGWK					476.29	36.07	30.66	2
LGSLSSLPATK	537.32	19.81	28.84	2				
VYNIEFNPPK	610.84	28.44	42.33	2				
DSNLN(+.98)GFYIPK	634.83	35.33	32.47	2				
VNVNLLIYLLNK					708.42	54.49	61.28	2
QFSLFLGK	470.28	36.29	40.23	2	470.29	29.07	43.48	2

VVDLM(+15.99)VHMASK	415.90	17.18	25.31	3				
TTGIVLDSGDGVTHNVPIYEGYALPH	909.14	45.39	44.04	3				
IYELAAGGTAVGTGLNTR	588.67	31.31	33.18	3	882.50	23.98	49.41	2
TTGIVMDSGDGVTHTVPIYEGYALPH	910.79	44.44	39.96	3	910.80	37.69	47.65	3
IIWELIK					457.80	33.33	29.44	2
VVEIAPAAHLDPQLR	543.66	28.69	45.51	3				
VMAVELGPHK					540.81	12.48	34.96	2
GVIINTASVAAFE(+21.98)GQVGQAAYSASK	821.11	50.20	31.55	3				
DVNLASFIEQVAVSMT	862.44	68.78	47.84	2	862.43	67.98	60.22	2
GLNGK	488.30	27.63	26.9	1				
WLAVPDHAR					532.81	12.95	36.75	2
DFT(+27.99)PTDMAEFAAR	750.34	42.04	26.56	2				
YFPAFEK	451.24	22.80	23.42	2	451.24	17.12	37.76	2
GILAADESVGTM(+15.99)GNR					753.88	14.00	48.36	2
FVEFFGPGVAQLSIADR	618.35	60.18	27.53	3	927.01	48.37	70.2	2
KHGFDVALNYK	431.24	14.94	36.87	3				
YQLDPTASISAK	647.35	24.62	45.13	2	647.33	17.35	43.56	2
AVTIASAVNC(+57.02)PLYVVHVMSK					720.37	39.48	31.89	3
GLWGLVNNAGISTPTAPNEWLTK					813.79	51.89	53.67	3
FGM(+15.99)HLQVATPK	415.56	13.61	41.79	3				
LMFN(+.98)DFLLASGDTQTGIYK	712.38	56.49	34.66	3	1068.06	52.09	34.49	2
DFTPSGIAGAFQR	683.85	40.51	37.78	2	683.85	33.34	62.25	2
DYLIDGSR					469.72	14.37	24.72	2
IGC(+57.02)FALSEPGN(+.98)GSDAGAAATTAR					732.35	24.79	51.61	3
WNLLQQQK					529.33	17.34	39.52	2
FSLMTLR					434.24	26.10	31.55	2
VSMVEPGYFR	592.81	27.82	55.24	2	592.84	20.86	52.07	2
ELASQPDVDGFLVGGASLKPEFVDIINAK					1010.58	54.46	35.46	3
EVAIFGAASELFTK	741.91	52.91	55.16	2	741.91	47.15	67.94	2
LDPTQTSFLK	575.32	27.00	32.32	2				
DLQNVNITLR	593.34	29.97	37.16	2				
LFIGGLSFETTEESLR	899.99	50.48	66.25	2	899.99	44.77	60.52	2
ILGAR					529.34	24.19	24.19	1
IIVVSNPVDILTY	723.42	62.95	37.64	2				
MSMPEALAAATINAAYALGK					665.32	59.33	73.18	3
VDLVLLGK	428.79	32.16	35.57	2	428.80	24.93	39.85	2

ETVLDIVPTDIHQK	536.64	33.87	47.54	3	536.66	26.26	43.69	3
LSLNIDPDAK	543.31	26.59	53.89	2	543.31	19.69	49.75	2
LDLETMSTEDLLNALK	903.49	61.52	30.13	2	903.48	56.53	62.39	2
DMMNDIDEK					555.75	14.24	46.55	2
PSADAPMFVMGVNHEK					865.49	33.95	35.48	2
VINVNLIGTFNVIR					786.48	46.54	60.23	2
IAPPK					525.33	62.24	21.79	1
GLGTDDDTLIR					588.31	16.38	60.5	2
TLVNPANVTFR	616.36	38.35	35.86	2	616.37	21.57	48.3	2
LQYVDNIR	510.79	18.43	37.04	2				
FTMELAK	420.23	20.23	37.86	2	420.23	15.23	35.86	2
LISQIVSSITASLR					744.44	52.04	63.74	2
VAVLTGLPFVTAPNK					763.94	40.08	60.59	2
M(+15.99)AEDLILYGTK	635.33	28.00	36.82	2				
YIDLVPSSMPHAATQDVK					657.99	23.96	46.26	3
GYFEVTHDITR	446.57	22.13	34.34	3				
TLEVNLLSYVVLSTAALPM(+15.99)LK					764.44	63.37	41.35	3
SFPNFPIPGVLFR					745.93	54.71	40.27	2
GLAGAVSELLR					543.36	33.71	50.16	2
AALSGLLHR	469.30	18.02	51.54	2	469.28	13.48	58.74	2
TALLDAAGVASLLTTAEVVVTEIPK	828.17	67.64	75.4	3	828.16	65.87	75.9	3
ELSGVDLVIEAVYEDMNLK	713.04	66.93	66.22	3				
LEIPEYFNFAK	685.88	48.19	25.06	2				
LYTLVLTDPDAPSR	780.94	37.42	55.5	2	780.92	30.27	61.64	2
KLSLELGGK	472.80	14.74	33.45	2				
LIIVEGC(+57.02)QR	544.31	17.40	23.21	2				
LIEPNTAVTR	557.32	15.58	37.19	2				
PLLM(+15.99)VHGWPGSFYEFYK					696.35	44.12	30.76	3
PAILTYER	481.78	17.81	31.13	2				
NLSVEDAAR					487.74	12.09	45.07	2
VLPSITTEILK	607.38	38.48	37.12	2	607.40	31.90	41.8	2
QTMQVDEHPRPQTTMEQLNK	603.57	16.56	44.5	4				
VNVPVIGGH	446.26	22.90	25.21	2				
SLLVTLASHLPSDFTPAVHASLDK					630.59	45.61	50.63	4
SLPEETVDHIVQ					683.84	21.70	41.03	2
AYGGAYDVM(+15.99)SSK	632.79	12.81	32.32	2				

FTDEEVDELYR					708.33	22.33	64.15	2
SVNNSLYLGPILK	709.42	39.25	26.39	2				
LAAVDHIN(+.98)AVIR	431.59	21.95	28.13	3				
NLAVPLYK	459.29	23.88	24.44	2	459.29	17.74	29.4	2
YGAFGLPVTVAHLQDETHMLFGSDR	691.12	54.71	34.67	4				
ELSDFISYLK					607.84	42.42	46.77	2
FNSANDDNVTQVR					740.35	12.08	69.89	2
TGPAASTLSDGAAAEALVESSEVAVIGFFK	965.86	66.83	61.36	3	965.86	63.97	72.42	3
NFITAEELR					546.82	19.30	31.05	2
GFFLLESC(+57.02)NVAGFLSQR					973.01	55.48	36.3	2
RPEMGDQALMPF					696.34	31.34	21.4	2
VAGALAE(+21.98)AGVGLEEITDR	598.33	44.21	31.63	3				
SFNLIIAK	453.29	30.25	34.13	2	453.30	22.57	36.6	2
GFVLTFK	406.25	31.78	24.77	2				
IM(+15.99)GLDLPDGGHLTHGFM(+15.99)TDK	547.53	31.96	25.61	4				
VNTLIRPDGEK	414.58	12.25	28.55	3				
EILDQFTEEVVK					725.38	35.28	56.19	2
L(+144.10)KEWVNPNLPFLLEDPVLSAIAK					917.53	62.48	25.22	3
AFAISGPFNVQFLVK	819.47	57.00	31.36	2	819.48	51.73	64.95	2
LM(+15.99)FNDFLLASGDTQTGIYK	717.37	52.23	34.7	3				
LTLDTIFVPNTGK	709.92	48.70	35.36	2	709.91	36.35	53.34	2
AEAEAMYQIK					577.31	13.38	49.61	2
GFPVYSHVDPK	415.89	16.13	22.89	3	623.33	12.66	55.68	2
ILEELTYVAK	589.85	32.76	53.16	2	589.87	25.20	52.16	2
AEMWLIR					459.76	24.88	40.03	2
DLGEAALNEYLR	682.37	42.44	56.9	2	682.35	35.29	58.52	2
DGDDVIIIGVFK	645.86	50.92	49.91	2	645.85	45.23	55.57	2
NNLGELINTLNAAK					742.92	37.38	54.65	2
AVFGDLPLGAGTVEK	737.42	39.40	56.23	2	737.42	32.59	50.9	2
GFIQVYVDQVDADIVAVTR	703.40	65.39	27.64	3				
GVAN(+.98)ALAHR					455.26	12.10	22.7	2
NFLASQVPFPS(+27.99)R	695.86	39.05	23.59	2				
LDFNLIR	445.77	35.08	25.52	2				
NLLHVTDTGVGMTR	505.28	23.61	60.47	3	757.41	16.82	64.33	2
Q(+57.02)CSSGLQAVASIAGGIR	558.98	39.65	32.39	3	559.03	31.96	30.76	3
VPSLMVSFLR					574.87	39.86	61.41	2

NLALGGGLLLLLAESR					805.48	59.75	36.74	2
VIGHPDIVINNAAGNFISPSER	774.10	36.83	58.52	3	774.09	30.15	52.17	3
VTHLSTLQVGSLHVK	405.50	20.45	46.94	4				
PGMLDFINK					517.81	29.32	40.91	2
LSYGF(sub L)LSPPQLHK					496.31	27.27	22.58	3
TPSPLSYVPR					558.83	21.75	54.95	2
YYELHLGVSHPEFPFSEEY	781.71	48.72	37.1	3	781.71	43.17	36.82	3
DFMIQGGDFTR	643.81	35.67	60.53	2	643.79	28.06	55.79	2
PQLPNVEFVGGLHC(+57.02)K					565.68	25.23	28.85	3
GVLFASGQNLAR	616.86	25.58	38.64	2				
YQQAGLPLIVLAGK	735.94	44.21	43.85	2	735.95	38.06	68.65	2
SETITEEELVGLMNK					846.93	37.56	74.6	2
VSPEEFTEIM(+15.99)NQR	798.38	27.25	37.12	2				
GDYAPILQK	502.79	18.55	46.16	2				
GEGLSVTGTVC(+57.02)HVGK					750.89	12.53	34.9	2
TYFPHFDLS(+27.99)HGSAQVK	466.24	28.31	35.64	4				
LKPAFIKPYGTVTAANSSFLTDGASAVLIMAEEK					886.02	51.13	31.75	4
MPEVPGFYWVAPC(+57.02)ISAK					976.54	50.27	21.25	2
PFLTDPK					409.24	29.36	24.75	2
TYFPYLMAVLTVK					773.44	56.34	61.1	2
HQPFLGYR	509.28	14.12	28.16	2				
AAFQLGSPWR					566.82	26.59	52.31	2
LFEGNALLR	516.81	28.92	33.36	2				
AGADVIITYYTPQLLQWLK					1097.16	62.09	49.68	2
YAAELHLVHWNSK					523.30	16.03	59.2	3
IQALLDK	400.75	14.55	29.68	2	400.74	12.64	30.37	2
NQDHSALQNLYMLSSTVSSK					741.71	33.87	42.52	3
GLPPLGFLNPR					590.92	36.68	50.25	2
YGLLMLLK					475.82	39.45	38.91	2
LIVVSNPVDILTY	723.42	62.95	37.64	2				
YPLEEFVK	512.78	31.52	35.72	2				
LDVAPISDIIAIK	684.43	51.01	43.37	2	684.39	44.77	53.55	2
ESGLYFIR	492.77	29.24	30.9	2				
STVELFK	412.24	18.57	31.73	2	412.25	14.69	40.72	2
YSDMIVAAIQAEK	719.89	36.68	41.99	2				
SLRPESLHQVSF					700.38	16.67	24.54	2

LPDNVTFEEGALIEPLSVGIHAC(+57.02)R	879.80	51.40	29.36	3	879.81	45.75	46.64	3
IQEELDTVIGR					636.85	20.58	45.27	2
VEIEAIAVQGPLTT	720.92	48.20	42.3	2	720.90	41.56	48.62	2
LEAYHTQTTPLVEYYSK	681.69	27.58	49.18	3	681.66	20.39	67.78	3
VGEALVSHPEVPLISFTGSQPTAER	874.49	43.57	58.51	3	874.48	37.18	56.86	3
TILEELVTR	537.32	36.36	40.68	2	537.34	29.41	45.91	2
EWFLLSAK					497.30	34.63	36.32	2
MVAPSMASR	475.25	13.33	25.72	2				
LLVQDVVFTDEMAHFDR	679.02	48.68	44.47	3				
VETGVLKPGMVVTFAPVNVTTEVK					839.16	39.21	64.48	3
DSYEFFTEVK					632.80	30.13	68.34	2
VINVL(sub N)LIGTFNVIR					524.26	46.74	28.33	3
VSPETVDSVVVGN					651.33	23.07	34.67	2
YGVEAFSDSLR	622.31	30.62	59.77	2	622.31	23.58	56.13	2
YAMQMEQLN(+.98)GVLLHLESELAQTR					892.47	55.33	55	3
VLDPNTVFALVNYISFK					647.34	62.97	51.46	3
LKPVIGVNTDPER	479.95	17.21	59.22	3				
MMFPIFLGQR					620.34	45.05	51.35	2
VIHDHFGIVEGLM(+15.99)TTVHAITATQK					659.35	37.45	64.5	4
TMVVHEKPDDLGR	499.61	12.04	36.26	3	499.61	11.84	67.03	3
TAMTDWQK					490.75	12.54	45.49	2
VVDLLAPYAK	544.83	32.53	47.77	2	544.85	25.70	48.82	2
MEYDGLLIAGGPGNPALAQPLIQNVK	893.86	55.60	63.65	3	893.83	49.91	81.64	3
TPIFFIR					447.26	28.44	29.65	2
LGLMEMIAFAK					612.34	49.04	57.87	2
IAILGFAFK					490.33	43.53	43.23	2
IYEGSILEVDC(+57.02)DILIPAASEK	779.08	54.85	36.79	3	779.06	48.97	31.27	3
EYYEALPELK					627.82	24.81	50.87	2
DM(+15.99)AIATGGAVFGEEGLNLNLEDVQPHDLGK	782.40	53.09	44.21	4				
VSFELFADK					528.30	30.35	43.66	2
QLDGVPATIDVLPEIVEAVEGK	764.77	66.57	31.51	3				
NPPVNAISTTVAR	670.39	18.76	54.94	2	670.36	13.72	64.22	2
LITSVAEVVNNDPVVGSK	614.36	37.92	80.36	3	614.35	31.74	74.49	3
IVEVLVGK	428.79	20.00	31.22	2	428.78	15.09	34.11	2
LNDGHFIPVLGFGTF					817.45	55.36	35.55	2
DFTPAELR					474.75	17.08	35.32	2

YYVEELDPSLLANFPLLK	708.73	65.58	25.57	3	1062.60	61.26	30.26	2
LLDVMEDGLKEEMK					550.64	29.00	47.49	3
VLDASWY(+15.01)SPGTR	683.84	21.69	24.38	2				
AISESGVALIPGLVK					727.45	35.77	51.68	2
QLLDLAQK	464.78	21.58	32.38	2				
IPFVYSHYTSPGHIIEK	497.78	29.12	54.11	4	663.35	20.72	59.36	3
PVNC(+57.02)PYR					453.25	33.78	25.68	2
ISLQWLR					458.30	28.91	20.97	2
LKLPAVVTADLR	432.62	33.45	38.59	3				
D(+57.02)CPVPLPGDGDLLVR					811.90	38.15	24.67	2
AAVEEGIVLGGGC(+57.02)ALLR	562.32	41.35	42.19	3	842.96	34.69	39.76	2
LEVAQHLGESTVR					719.90	24.73	52.37	2
PITPQFVTEVIK					686.40	61.13	38.4	2
EDVIWELLNHAQEHFGK					689.03	47.03	45.64	3
DILANVTR	451.27	22.70	34.8	2	451.26	16.71	33.4	2
IFTEALEK	475.78	19.85	38.54	2	475.78	14.98	24.56	2
LAEDYGPVFTLY	694.35	56.59	37.75	2	694.36	51.66	43.13	2
NC(+57.02)QEFLDLPEVINWK					952.99	53.11	38.75	2
SDLEMQIESLTEELAYLKK					747.38	56.45	36.77	3
SIVEEIEDLVAR	686.89	61.32	35.14	2				
LYFEELS(+27.99)LER	663.84	42.27	32.86	2				
FAHYIITSQVVNSADTAK	655.70	27.38	36.96	3				
FGM(+15.99)AAALAGTM(+15.99)K	600.79	14.50	54.08	2				
LGENLQLK	457.77	17.76	37.62	2	457.77	13.72	39.39	2
YLYEIAR	464.27	20.76	34.92	2	464.25	15.36	37.8	2
LLLEYTDSNYEEK					808.89	22.69	64.95	2
AIFTFPNTPVK	617.85	37.23	30.92	2				
ILGMTLLQK					508.85	28.15	50.93	2
TVIQAEIN(sub D)AAAELIDFFR					674.44	64.72	31.75	3
VVLALTLLR					499.33	37.94	27.44	2
DSNYHLLMSVQESLER					640.98	39.10	67.15	3
TYFPHFDL					520.28	36.62	21.19	2
IYAIAK(+162.08)ALEDNMSLDEIMK					777.40	48.34	25.13	3
LTVNDFVR	482.28	28.59	32.09	2	482.28	21.32	44.61	2
GPLLVQD(+37.96)VVFTDEMAHFDR	557.53	51.64	30.64	4				
GYLGPEQLPDCLKG	745.38	34.81	41.9	2	745.37	27.51	38.12	2

DLGFFGIYK	530.29	47.91	43.38	2	530.32	41.75	41.77	2
MAGHDINYLALSGVLSR					606.36	35.12	47.5	3
LLGN(+.98)VLVVVLAR					633.91	53.36	44.63	2
INAAR					544.31	26.24	22.54	1
ISPYVAHSFNK	421.57	14.62	31.41	3				
TSPLLIGLIENILK					762.47	63.41	26.62	2
LVNAN(+.98)GEAVYC(+57.02)K					669.83	12.47	43.3	2
NPVNYFAEVEQLAFDPSNM(+15.99)PPGIEPSPDK	805.41	63.27	28.19	4	1073.54	59.74	30.8	3
YGVSGYPTLK	542.80	21.63	44.27	2	542.83	15.49	56.07	2
FLQEIYNSNSQK	735.88	22.37	47.67	2				
Q(-17.03)AEMLDDLMEK					653.29	46.77	35.88	2
LSPAQLGDIC(+57.02)VGNVLQPGAGATMAR					832.77	43.20	53.56	3
HVMTNLGEK(+42.01)LTDEEVDEMIR					801.08	29.54	29	3
VANVSLLALYK					595.93	31.29	43.66	2
TIPM(+15.99)DGNFFTYTR					789.89	27.94	34.27	2
AEGVILAR					414.75	12.49	34.46	2
LILTSSASVIFEGVDIK	598.02	54.38	23.64	3	896.51	49.02	57.95	2
FVVAFGEDMR					585.82	27.92	49.48	2
ALPPLALFTSK					579.39	38.54	33.02	2
GLTLSWIGDGNNILHSIM(+15.99)MSAAK					815.77	53.34	26.48	3
ISLTHSLTR	514.31	13.84	37.02	2				
SLATAGDGLIELR	658.38	35.52	34.26	2				
ILQEGVGPK	470.79	12.55	38.7	2				
M(+15.99)IPAAHFFEK	402.88	20.81	29.43	3				
GKNPEELIWHTPEGISIKPLYSSR					688.63	32.15	58.87	4
GPLLVQDVVFTDEMAHFDR	730.37	51.49	57.57	3	730.36	45.81	74.38	3
TGAIVD(+37.95)VPVGEELLGR	554.97	45.71	37.2	3				
HADGIAVVGVFLK	442.60	55.21	42.9	3	663.38	31.66	76.27	2
TLMNLGGLAVAR					608.41	29.88	48.77	2
PPYTIVYFPVQGR					768.94	35.61	48.23	2
EAGFPPGVVNVIPGFGPTAGAAIASHEDVDK					1007.21	50.08	55.12	3
VSLLGWSDGGITALIAAAR					936.04	59.68	69.23	2
WLLLC(+57.02)NPGLAELIAEK					920.52	56.67	46.73	2
SDYENFMER					595.77	16.55	52.34	2
EYVLPSFEVQLEPEEK	646.02	48.91	45.27	3				
DLPLAQGIK	477.79	26.48	29.19	2	477.80	19.64	29.6	2

INNEWHSSVSGK					679.33	15.93	57.12	2
DGVVVFTLGSMIK	683.39	59.63	23.8	2	683.37	47.57	69.6	2
GLGLGIVAGSLLVK					648.91	44.08	48.8	2
SLANIIYYSLK					642.87	40.31	33.12	2
LAVPLYK	402.26	22.86	22.64	2	402.25	16.51	21.88	2
EGNDLYHEM(+15.99)IESGVINLK	693.02	33.72	48.25	3				
TLISILTER	523.32	37.93	31.23	2				
LLVSGWWGMVR					652.33	45.10	51.72	2
SLETSLVPLSDPK	693.40	34.26	43.07	2				
DLLIAYYDVDYEK	810.42	48.34	41.45	2	810.40	41.54	28.21	2
GNLEVLLFTIQSK					731.43	46.89	46.21	2
FAGLHFFNPVPLM(+15.99)K					545.35	36.46	33.54	3
LFAYPDTHR	560.30	15.33	45.24	2	560.31	12.57	46.53	2
VLVVVLAR					434.80	20.64	29.61	2
GLNVVLISR	485.81	29.74	44.38	2	485.80	21.79	44.8	2
LC(+57.02)SGVLGTVVHGK	442.92	19.71	35.45	3				
TIYTPGSTVLYR	685.88	37.16	23.91	2	685.88	21.19	33.35	2
IFSLEHDIFR	426.25	35.64	41.03	3	426.25	29.56	45.37	3
QQWVAPFTSGDK					682.34	21.37	46.1	2
IAALQSAGVVVSMSPAQLGTTMYK					808.42	43.93	72.94	3
C(+39.99)DEPILSNR					543.77	20.00	26.61	2
WTTAPKPTMADELYDQDYPIHSVEDR					770.38	30.20	67.48	4
PGFIVNR	401.74	22.32	31.03	2	401.74	16.27	29.64	2
VVYGEPIAAGLGTDGTHHWDR					563.56	20.97	77.99	4
ILIPALMVTAEK	649.90	45.56	35.49	2	649.88	39.15	40.56	2
VSNIPVTAIR					535.33	14.79	33.51	2
VVLAEDC(+57.02)WLK					616.84	26.80	28.5	2
LPVGTTATLYFR	669.89	35.69	33.55	2				
GYGFGLIK	427.75	30.40	32.54	2	427.74	22.46	46.85	2
VVEGLPINDFSR	673.37	34.54	30.82	2	673.36	27.42	40.05	2
NPFLAVVTTNR	616.35	31.29	49.84	2	616.35	24.57	50.4	2
AAFPGWSSR	489.76	22.80	32.45	2	489.75	16.76	46.06	2
INPSSMFDVQVK					682.85	28.35	63	2
F(+43.01)LANVSTVLTSK					661.87	56.64	39.25	2
MVLAAAGGLEHR	408.91	17.10	46.86	3	408.90	13.29	45.2	3
EVLDILK	415.27	30.49	26.11	2				

VTAIDFR	411.23	18.48	34.59	2	411.23	14.38	36.51	2
VTLVSAAPGK	471.80	14.37	34.91	2				
LWTLVSEQTR					616.84	23.26	26.01	2
ALPFWNEEIVPQIK					842.48	47.52	57.99	2
KQELFSNLR					567.83	12.75	33.64	2
VPGATMLLAK					500.80	18.00	52.76	2
HLQLAIR	425.77	13.64	26.36	2	425.77	12.28	32.77	2
SHEIVLVAY	515.79	28.70	26.37	2	515.80	22.18	23.71	2
IM(+15.99)DPNIVGSEHYDVAR	611.31	22.18	38.16	3				
EAAALPVSYGTAIFALEHR	672.72	47.41	37.89	3	672.68	41.40	50.17	3
ISATSIFFESMPYK					810.92	43.75	67.99	2
ALVAYYQK	478.27	15.58	32.38	2				
LQQELDDLLVDLDHQR	650.69	47.94	37.21	3	650.67	45.33	61.37	3
I(+57.02)GCTPVLVLSGLDTVR	850.50	56.53	28.86	2	850.50	42.53	44.17	2
VGIVAVDK	400.76	14.98	27.77	2				
GIGGIFFDDLDSPSKEEVFR	743.38	49.87	52.38	3				
LVGNPHPLVTSTDIVLTITK	706.76	44.00	28.71	3	706.75	36.76	76	3
INQTYQLQYGR	692.37	18.71	50.89	2	692.37	13.87	61.96	2
DVELYEAFSR					614.81	30.32	54.18	2
LADVVAEVK					472.28	13.93	51.66	2
YDVPFITDEVK	663.35	41.07	43.8	2	663.32	34.43	44.89	2
TGAIVD(+21.98)VPVGEELLGR	549.65	45.80	25.1	3				
GGHFAAFEEPELLAQDIR	667.35	42.58	61.21	3	667.32	36.25	77.6	3
NIFDFN(+.98)ALK	541.79	43.13	23.21	2				
VEFPQDQLTTLTGR	802.94	37.89	41.86	2	802.92	31.36	61.11	2
Q(-17.03)DAQDLYEAGEK					675.29	18.41	34.32	2
EEGLPVPELFTDPLFSR					973.52	60.03	41.67	2
ISSVQSIVPALEIANAHR	635.71	52.89	56.38	3	635.69	32.45	60.32	3
FENAFLSHVISQH	510.28	35.68	35.7	3				
DTTFNDIPVR					589.33	19.47	51.25	2
DLGLAQDSATSTK					653.82	13.12	59.46	2
VISHAISEHVEDAGVHSGDATLM(+15.99)LPTQTISQGAIEK	752.41	34.16	25.76	5	940.26	27.29	31.12	4
AIIIFVPVPQLK					669.40	48.68	38.25	2
MGAVFMDAPVSGGVGAAR					846.92	27.77	69.65	2
EESFGPIMIISR					689.85	37.34	63.64	2
AQDEGLLSDVVPF					695.36	56.34	23.66	2

GHVADFLVADFR	449.59	35.63	37.87	3				
AGVNTVTTLVENK	673.38	24.56	38.24	2				
DSNYHLLM(+15.99)SVQESLER	646.33	39.36	38.46	3				
EQIVVDLSHPGVSK	503.29	23.92	43.69	3				
MSLIEEEGGKR					416.89	12.14	36.84	3
SKELTTEIDNNIEQISSYK					738.06	29.29	58.61	3
AELSLVFVDKPEK	492.28	29.96	40.39	3				
YVDLGGSYVGPTQNHILR	663.70	30.09	59.37	3	663.67	22.80	66.53	3
KPLVIIAEDVDGEALSTLVLNR	789.14	54.75	55.25	3	789.13	50.01	63.62	3
HLFHPDLLQDK	454.93	19.61	50.95	3	454.93	15.05	63.7	3
ELPSFVGEK					503.28	17.35	30.5	2
NLFQPALPSASWK					729.91	35.11	48.76	2
NPVNYFAEVEQL(+53.97)AFDPSNMPPGIEPSPDK	814.90	63.37	24.99	4				
QAGIDRPF	452.25	17.83	25.78	2				
QYASLTGTQALPPLFSLGYHQSR					845.81	42.06	43.74	3
GYFIQPTVFSDVTDDM(+15.99)R	1003.99	47.14	40.17	2	1003.98	42.29	41.99	2
VLSSMTDAVLAR	631.86	29.03	55.92	2	631.85	21.61	68.13	2
ASC(+57.02)LYGQLPK					568.81	14.55	39.98	2
GFLDTM(+15.99)LIEM(+15.99)AK	700.86	38.68	40.14	2	700.86	31.64	52.45	2
IAMQTLDTGR	553.30	17.33	53.99	2	553.30	13.36	57.58	2
SVGEVM(+15.99)AIGR	517.78	13.70	36.32	2	517.79	12.23	40.25	2
ELFPIAAQVDK	615.85	34.62	49.35	2	615.86	27.55	49.81	2
LTLTFNR	432.76	24.00	24.73	2	432.75	17.19	31.76	2
LTFFNSTLSTAGLEPEGEDLPIPGAHRPGVITK	866.98	49.44	30.28	4	866.98	43.58	43.1	4
ALTSELEALGK	566.33	30.15	55.24	2	566.34	23.40	57.08	2
Q(-17.03)VITLLNELK	577.36	61.33	30.66	2	577.38	56.79	33.53	2
QVVNIPSFIVR					636.36	35.40	30.99	2
LAIPG					470.31	72.81	22.98	1
GIGISVLEMSHR					433.59	22.21	47.88	3
AVNT(+27.99)LNEALEFAK	724.39	39.21	42.25	2				
LFVEDSIHDQFVR	535.62	32.70	45.63	3	535.64	25.50	43.17	3
IILPEGAK	420.77	16.20	25.16	2				
PLVC(+57.02)LTDFR					560.83	28.77	25.28	2
TADGGFMAVGAIEPQFYELLIK					1185.68	60.86	38.73	2
DTTPH(sub D)ELLSAVMTAVLQDVK					723.38	66.41	29.79	3
INFPIYVWSSK					677.37	41.73	28.84	2

LDLLEDR					437.24	17.34	27.18	2
YLEQLPGQLK	594.85	26.57	46.97	2	594.87	19.25	47.77	2
EFSIYMTK					509.78	19.94	39.53	2
AN(+.98)DTTFGLAAGVFTR	771.40	48.19	27.21	2				
ASDVVLGFD(+21.98)ELEGYLQK	635.66	58.20	38.1	3				
YEELQTLAGK					576.33	14.73	45.27	2
Q(-17.03)IPLNEQFLR	620.86	49.34	30.45	2	620.85	43.20	21.01	2
ARPTGGAGAVAMLVGPEAPLVLER					778.12	39.81	30.19	3
SDDIGGLWR					509.77	24.03	49.97	2
VMT(-18.01)IAPGLFGTPLLTTLPDK					689.73	56.68	42.66	3
AQPGGELMLGGTDSK					730.88	15.59	58.58	2
VLDSFSNGMK	549.29	19.42	29.58	2				
TIYAGNAIC(+57.02)TVK					655.85	14.44	31.45	2
PNLPYLIDGTHK					684.35	49.32	38.54	2
IINEPTAAALAY	623.84	35.38	31.35	2				
LIIAGTSAYAR	568.34	22.37	38.74	2				
IYQDPQVMLAPLISIALK					1007.14	61.31	68.24	2
IAHAEAQVGFPEVTLGILPGAR	749.43	46.83	45.04	3	749.42	41.17	65.09	3
DITGTLSNPGFFNYGVEAHK	723.05	43.92	33.35	3	723.04	37.34	67.49	3
LIDKEVISHDTR	475.95	12.10	64.88	3	475.95	11.94	50.84	3
EEC(+57.02)ALEIIK					552.80	19.05	34.98	2
GIVSR					531.34	37.87	24.77	1
GTTLITNLSSVLKDETVWEKPFR					659.36	48.85	44.38	4
NFFEPTLLSNVTR	769.41	46.08	41.67	2	769.42	40.28	54.2	2
DLEKPFLLPVESVYSIPGR	720.41	53.72	64.64	3	720.41	48.11	59.62	3
LSSPATLNSR	523.30	12.91	36.1	2	523.29	12.00	48.89	2
DFDPALTEYVQR					727.35	30.75	67.23	2
MPC(-33.99)TEDYLSLILNR					817.43	54.02	22.67	2
VIGNQSLVNELAY					710.37	37.76	36.07	2
RTPFGAYGGLLK					640.34	19.98	46.47	2
EDIDMAMK					476.72	13.31	34.97	2
IQLVEEELDR					622.34	20.48	46.14	2
LIVGLM(+15.99)RPPAYADAK					544.36	17.57	21.62	3
VMQEEIFGPILPIVPVK	637.05	59.35	44.67	3	955.08	54.50	60.49	2
TVM(+15.99)ENFVAFVDK	708.37	36.21	30.66	2				
KEPLFGISTGN	581.82	26.91	35.4	2	581.87	20.56	44.87	2

YVGSM(+15.99)VADVHR	417.22	11.93	39.24	3				
APM(+15.99)FSWPR					504.28	20.53	40.69	2
AISESGVALIPGLVK(+14.02)(+42.01)					755.43	42.09	21.96	2
AFAMTNQILVEK	682.89	32.01	64.59	2	682.86	24.75	68.92	2
GTPGLSFGK	432.25	17.33	34.17	2				
AFDLLVDRPVTLVR	538.67	57.27	30.56	3				
APSPPIVDTAQGR	654.87	16.53	41.54	2	654.86	12.76	47	2
AALAGGTTMIMDFAIPHK					615.66	39.32	68.48	3
VILQDFTGVPAVVDFAAMR					683.71	56.82	64.09	3
AGASIVGVNC(+57.02)HFDPTISLQTVK					772.09	33.19	33.12	3
ELFPIAAQVDKEHR					413.99	17.47	61.94	4
GIVGVENVAELK	614.36	30.38	60.73	2	614.36	23.62	61.03	2
DLYANTVLSGGTTM(+15.99)YPGIADR	744.38	43.54	42.44	3				
AVLQEFGR	460.26	18.56	31.78	2	460.27	14.44	35.9	2
LLETLFVHR	564.35	31.08	37.38	2				
AEMDQILHGLDK					457.25	23.84	44.65	3
IPEHLTDTYFK	455.25	23.65	36.42	3				
Q(-17.03)FAAIHAEAPEFVEMSVEQEILVTGIK					990.54	62.07	21.8	3
IDNFEYSDPVDGSISR					907.43	25.45	72.73	2
KLTEIINTQHENVK	556.32	12.71	34	3	556.33	11.95	69.29	3
C(+39.99)MALSTAILVGEAK	723.87	58.82	29.36	2	723.89	54.11	44.47	2
LPANHPLLTGQR	439.60	13.30	28.26	3				
ASVGFGGSC(+57.02)FQK	622.81	18.92	33.91	2	622.79	14.13	43.92	2
FRPQFLGVAEQLHNEGFK	530.05	58.44	29.48	4				
Q(-17.03)GIQFYTQLK	604.83	44.57	37.14	2	604.87	36.40	37.03	2
EKLEATINELI					636.87	35.69	39.37	2
QAGIDRPFTLDDVQYMIFHTPF					871.12	61.47	29.36	3
EQGFETEDIK					598.29	12.77	25.99	2
SGVSLAALK	423.27	19.07	38.73	2	423.27	14.79	42.86	2
KDLYANTVLSGGTTM(+15.99)YPGIADR	787.08	33.08	45.74	3	787.06	25.75	48.33	3
KLDEAVAEAHLGK					460.91	11.99	59.69	3
VGGHAAEYGAEALER					765.37	12.20	71.06	2
QNLIAEISTK	558.83	25.61	36.21	2	558.84	19.16	43.82	2
IQAVLLPK					441.30	16.40	23.64	2
FWLFGGN(+.98)ER					563.81	42.81	36.24	2
ALPC(+57.02)IVDVR	521.81	29.04	31.83	2				

AFAM(+15.99)TN(+.98)QILVEK	691.36	25.28	41.06	2				
DAEAWFNEK					555.26	19.68	44.78	2
LSFQIFTNK	549.31	36.80	31.5	2				
Q(-17.03)AASSLQQASLK	607.83	22.00	43.2	2				
QT(-18.01)ALVELLK	498.82	32.36	31.7	2				
ADVMLEPFRPGVMEK					573.67	26.91	34.04	3
IHKPDPWLSQFLAQYR					667.03	34.89	54.38	3
IIPGFMC(+57.02)QGGDFTR					799.88	30.53	40.91	2
LSQYEEPIHLPGVR	546.64	30.26	48.01	3				
MFESSLNIAVTK					670.33	25.54	44.15	2
DGFGFASSTVLQLTK					785.91	45.33	74.32	2
LEATINELI					508.30	40.32	26.21	2
VLLSALER					450.80	18.68	24.36	2
SHAPVYFYEFQHQSSFFK					750.38	30.30	73.47	3
GHIIVDEFQNTNVK	538.64	21.80	46.19	3				
DAGVIAGLNVLR	599.37	41.80	38.57	2	599.42	35.05	45.67	2
DMFQETMEAFR	702.82	49.67	31.08	2				
TILDELVMR					545.33	37.61	44.96	2
ADLEMQIESLTEELAYLK					1048.57	62.32	56.3	2
TVMGD(-18.01)HGDELFSVFGAPFLK					717.02	53.94	29.9	3
S(+225.16)HSLLVTLASHLPSDFTPAVHASLDK					742.92	61.73	26.87	4
MLSPFELVQYSLETEEPLR	761.08	65.66	26.2	3				
EQSGLEAHLLGLDTK	537.64	31.49	58.47	3				
QAGLSYIR	454.27	15.63	24.7	2				
ILDSVGIEADDDR					709.35	18.20	68	2
LFAEGATPVPH	569.81	23.57	34.78	2				
RGTLQSYFD	543.78	23.80	24.52	2	543.79	18.14	38.76	2
VEAAVGEDLFR					603.34	23.09	53.65	2
AVINNPIYK	516.31	19.81	45.64	2				
EAVLIDPVLETAQR					777.43	32.73	54.38	2
GFGFVTFDDHDPVDK	565.95	37.34	48.37	3				
LIAPVAEEETR					614.34	13.75	45.93	2
TFEINPR	438.74	15.72	39.56	2	438.74	13.03	34.34	2
IVGDLAQFMVQN(+.98)GLTR	588.32	49.85	38.19	3				
TGVLAAITAF	482.29	54.53	28.21	2				
YIANTVELR	539.81	18.78	23.74	2				

EGHPVTSEPSRPEPAIFK	495.28	15.84	54.88	4	660.00	12.28	56.57	3
IGDEGQGFLIAMK					689.85	31.33	70.26	2
INVASC(+57.02)SLGAAHASIVLAR					637.35	23.89	40.97	3
FTQAGSEVSALLGR	718.40	35.19	59.14	2	718.39	28.46	74.28	2
VLAGC(+57.02)LTEQGAEQLR	548.96	26.67	46.48	3	822.94	19.45	44.19	2
IM(+15.99)EFFFLK	545.79	44.27	31.67	2	545.84	38.18	36.11	2
GTTVLPLLSSILYDC(+57.02)K					890.49	56.05	34.73	2
DLQDSGVSIFFYEFQHR	696.69	57.23	24.27	3				
FLNHYLPEFR	445.91	33.33	26.33	3				
LLVVTDPR	456.79	19.58	42.83	2				
AIMGLYR					412.22	16.69	38.09	2
IITHPN(+.98)FNGNTLDNDIMLIK					762.05	38.32	25.58	3
GYFIQPTVFGDVQDGMTIAK					1094.08	47.51	64.06	2
VPLPSLSPTMQAGTIAR					869.98	31.60	41.9	2
IPNILSAFPHLQEYTVK					657.36	45.06	51.2	3
STDYGIFQIN	579.29	45.79	26.1	2				
LADLIER	415.25	17.96	34.21	2	415.24	13.91	32.39	2
LFNIHED					444.23	15.40	34.78	2
LSQNNFALGYK	627.84	23.06	48.55	2				
AIMTYVSSFYHAFSGAQK					670.00	44.03	28.62	3
VLLLEQFFLPH	678.40	64.13	34.49	2				
NKLNDLE(+14.02)DALQQAKEDLAR					733.40	40.90	29.9	3
YEISSVPTFLFFK					789.43	53.61	32.42	2
LPEEWSQWLSHSGWPGYVR					772.04	48.24	84.25	3
HTLPLVGHR	515.31	11.84	42.4	2				
TLVTQNSGVEALIHAILR					645.70	53.90	32.27	3
IKENIQVFDFELTLEDMK	738.05	42.23	44	3	738.05	36.02	48.33	3
ELTPSLLDVK	557.84	33.32	38.91	2	557.85	26.01	40.45	2
INYPMLQAAVTLK					731.40	35.90	54.51	2
YAAELHLVHWN					451.59	23.04	47.17	3
EAWSIWADIPAPK					742.40	45.86	61.45	2
GLHLNMALILR					417.58	32.59	33.99	3
AVFVDLEPTVIDEVR	851.48	49.41	43.96	2	851.46	45.26	49.63	2
VISAS					476.26	20.23	21.59	1
DEGWLAEHMLILGITNPAGK					722.39	53.23	47.61	3
IFAENDAVIPLEQVSLLTQK	743.43	57.63	29.33	3				

DLGTESQIFISR	683.38	35.92	64.58	2	683.34	28.41	57.9	2
EQIDIIEGIK					579.36	25.25	40.59	2
DGGQQFSGEFQALNPMK	927.44	44.03	50.88	2	927.44	37.53	64.47	2
MPYTD(+14.02)AVLHEIQR					529.63	22.93	22.68	3
IGQGYLIK	446.28	17.61	26.23	2				
VIGMHYFSPVDK					464.92	18.34	52.78	3
ILAAEHLSQDTALGGK	541.97	20.50	24.86	3				
VLPGVDALSSV	528.81	45.43	48.54	2	528.82	38.79	34.63	2
NLLSVAYK	454.27	23.20	27.12	2	454.29	17.31	36.99	2
AFQDLLDQVGGLGR	744.91	50.69	26.89	2				
AVEILAQEMVTDMPSSFEGK	728.03	51.94	59.45	3	1091.57	47.53	56.25	2
ILEFIAVSQLR	644.89	46.01	34	2				
IQVLGANWK					514.84	21.25	30.79	2
GLTSVINQK	480.29	15.33	40.28	2				
SLVFPEAENR					581.32	17.15	48.46	2
FYLEVSQILK	620.37	47.22	42.82	2				
GNDVLVIEC(-33.99)NLR	655.88	33.62	26.99	2				
NLTNPNTVIILIGNK					812.50	35.89	52.85	2
VILAEFNYNAEPLETFPFDQSK	858.12	59.66	42.77	3				
MPC(+57.02)TEDYLSLILNR	575.63	55.20	28.02	3	862.94	49.82	47.5	2
VELSDVQNPAISITENVLHFK					785.10	51.40	36.44	3
LSS(+27.99)PATLNSR	537.29	13.50	25.99	2				
FC(+57.02)FSTFGDR	568.77	30.78	34.62	2	568.78	23.90	23.67	2
ESTLHLVLR	534.33	19.86	48.45	2	534.34	14.87	50.9	2
TVMDIDTLGTFNVSR	834.94	45.06	58.8	2				
LPSVGR					628.38	81.20	21.34	1
LITGLAAGAQVYK	652.90	27.99	52.49	2	652.86	20.52	55.89	2
KN(+.98)GGLGHM(+15.99)NIALLSDLTK	633.70	51.68	24.23	3	633.67	26.41	25.58	3
DTQSIIFLGK	561.32	36.17	46.71	2				
STLLDSDEPLVYFYDDVR	716.39	59.96	42.82	3				
SLEDDIR					424.22	12.72	31.28	2
AYVVLGQFLVLK					675.41	47.89	53.2	2
LELAQYR	446.75	16.97	36.45	2	446.76	13.46	35.96	2
VLVVDPELR	520.33	27.09	42.73	2	520.33	20.40	39.59	2
SVRPGVAIADFVIFPPR					614.36	42.53	57.07	3
LDVLSNDLVVNVLK	770.97	53.36	49.97	2				

VLEGMDVVR	509.29	22.68	44.43	2	509.28	16.46	47.35	2
MGPLINRPHLER					478.29	12.24	36.69	3
GPLQSVQVFGR	594.34	31.23	29.79	2				
V(+43.01)VAGVANALAHR	610.87	42.68	29.45	2				
AVAQAGTVGTLLIVK	720.96	36.15	53.47	2	720.93	28.15	71.57	2
VLDFEHFLPMLQTVAK					630.02	54.81	67.3	3
EFVEEFIWPAIQSSALYEDR					810.42	61.48	78.25	3
LAASEAATAITHQAMQILGGMGYVK					844.80	57.61	64.92	3
NVFPIWTLGR					601.91	41.85	35.61	2
RHPEYAVSVLLR	480.62	30.61	56.16	3	480.63	15.15	57.48	3
LFATEATSDWLNANNVPATPVAWPSQEGQNPSLSPIR					995.54	55.57	44.94	4
LAPDYDALDVANK					702.86	21.31	55	2
QAFITAQNHGYALDSTLPAGWK					797.09	32.65	40.97	3
AGLILFGNDGR	566.82	34.45	37.16	2	566.85	27.52	40.67	2
VHVIFNYK	510.30	17.02	38.23	2	510.28	13.31	49.6	2
EQYLQSIEDR					640.80	15.87	43.13	2
MSLSLPLINR					572.40	36.01	39.53	2
GFLPLASEK	481.29	26.40	28.02	2	481.29	19.96	33.5	2
SNLNIFQYIEK	684.87	46.12	22.94	2	684.87	40.41	43.98	2
RPAILTYHDVGLNYK	587.34	25.93	68.95	3	587.39	17.09	57.03	3
AGAGSATLSMAYAGAR	727.87	22.27	35.09	2	727.85	15.94	72.32	2
LYSESLAR	469.76	13.59	33.29	2				
LIEWLPLHLPR					462.97	42.07	41.67	3
NTLPTVISNWWYMK					876.94	50.36	62.52	2
NFDEILR					453.75	18.76	35.44	2
M(+15.99)ALDIEIATYR	656.35	34.02	27.86	2				
IHFNPPLPM					533.32	31.47	24.83	2
GLGTDEDTIIDIIAHR	580.31	48.53	54.75	3	580.34	45.93	63.46	3
EALIDQGEEFSGR					725.85	21.64	33.51	2
KVPQVSTPT(-18.01)LVEVSR					541.33	17.22	50.96	3
SNLVSGLVMSIEEK					753.41	42.06	57.35	2
VDLLEN(+.98)QVMDVR					716.36	28.57	37.34	2
GIFPPPLEKPTLAVIGLVQSLGAAIPTTDLQSR					850.75	63.67	57.75	4
AVVVIQDIFGWQLPNTR					652.69	56.26	56.86	3
LKPDPNTLC(+57.02)DEFK	526.28	25.42	41.39	3				
LIFDSVDFC(+57.02)R	636.33	41.52	37.4	2	636.31	34.48	39.42	2

DQWDIIEGLIR	679.37	61.89	23.88	2	679.34	55.73	52.49	2
LDPEILKVAR					577.34	30.64	28.14	2
M(+42.01)EGGAELLFYVN(+.98)GR					799.90	58.49	41.73	2
VIHDHFGIVEGLMTTVH	635.68	38.28	58.13	3	635.66	33.11	52.73	3
LFSNAYLMDLGGCIK(+57.02)					851.46	43.13	28.52	2
LVQAIIENSFLN(+.98)GEVIR	639.37	51.07	30.38	3				
LPLPPSYVPVMLSELSDR	671.72	64.77	63.59	3	671.71	56.73	61.63	3
NEALAALLR	485.80	30.97	25.92	2				
INVLPLGSGAIAGNPLGVDR	645.06	50.12	45.79	3	645.03	43.38	75.11	3
FYALKPDR	505.29	13.69	27.85	2				
ALQASALAAWGGK					622.36	23.29	66.54	2
IQEEAQFLVEEFR					819.41	40.24	63.19	2
FAMEPDDFDADALR					806.86	35.59	53.16	2
YSLQPVAVELK	623.88	32.55	43.08	2	623.85	25.33	44.66	2
LPVVLGHEGAGIVESV(sub I)GEGVTTVR	792.46	43.30	24.84	3				
FEIFPVSLTK	590.85	53.87	31.15	2	590.88	40.06	38.52	2
NITYLPAGQSVL					638.34	37.88	23.92	2
LATQLTGPVMPIR					698.89	26.44	37.66	2
M(+15.99)LLLQDLSSYK	663.87	37.46	25.44	2	663.86	31.22	30.74	2
DAMFSNLIGQLDYR					821.91	51.49	68.69	2
INPSSM(+15.99)FDVQVK	690.86	24.26	39.27	2				
VQIAVANAQELLQR	776.94	37.02	37.62	2	776.96	30.28	47.51	2
ALVITVDVPK	527.84	32.61	41.48	2	527.87	25.46	35.09	2
GLGGVGLSVIMGCK(+57.02)					674.37	35.40	24.32	2
ALLER					601.36	11.87	21.25	1
VWFVSNIDGTHIAK					529.65	27.02	51.01	3
GNDVLVIEC(+57.02)NLR	701.38	32.39	37.38	2	701.37	25.60	33.42	2
NKLNDLED(+14.02)ALQQAKEDLAR					733.38	40.96	35.08	3
CCT(-2.02)ESLVNR					511.74	12.39	29.09	2
FKDIFQEIYDK					482.61	30.64	34.44	3
VQQEIDEVIGQVR	504.96	32.54	42.92	3	756.91	25.28	62.38	2
IPVQLQR	427.27	15.77	24.29	2				
EGYLQIGVN					496.77	27.29	28.88	2
FSVLLLHGIR					577.88	27.60	58.06	2
QLEPVYTSLGK					617.84	17.56	48.99	2
EIGNIISDAM(+15.99)K	603.81	23.51	34.35	2				

VSLELGGK	401.75	16.45	38.61	2	401.73	13.34	36.74	2
ALELNMISLK	566.33	39.62	43.95	2	566.36	32.96	48.32	2
VFVVGVGM(+15.99)TK	526.81	20.75	37.41	2	526.83	15.32	33.48	2
FVLDTLK	418.26	26.88	29.43	2	418.25	20.28	32.44	2
HNQLPLVIEFTEQTAPK	655.71	40.28	60.43	3	655.67	34.00	70.61	3
AAVTAFW(+15.99)GK	483.77	24.99	28.53	2				
LNLVTTWLQLQIPR					848.04	57.29	58.12	2
YTAIPIVGQVFQSK					775.95	40.37	43.07	2
SPNPALWWVNDQGDEVK					978.00	37.14	70.85	2
KYSHLVDVGQVGVNVPIPVPLPM					820.15	52.11	36.34	3
EGYLQIGVN(+.98)TR					625.82	21.23	39.54	2
NKLNDLEDALQQAKEDLAR					728.71	39.57	67.33	3
ALMDEVVK					452.76	15.68	40.81	2
GYFIQPTVFSD(+21.98)VTDDM(+15.99)R	676.99	47.18	28.35	3				
FAGLHFFNPVPL					679.86	50.48	24.7	2
IGIPHGGFPEPLR	463.94	30.42	25.8	3				
SQWLDVK					438.24	15.25	31.29	2
ISPGAFAPLVK	550.34	32.72	28.41	2				
ILGEGMAAIPEHIDVIYLHGFGWPR					698.62	53.98	38.01	4
LSDRPQLPYLESFILETFR					775.42	59.09	47.78	3
Q(-17.03)VSIILLGATGDLAR	755.45	65.70	26.36	2	755.43	60.19	23.39	2
VAPEEHPTLLTEAPLNPK	652.71	27.72	58.03	3	652.69	20.52	61.4	3
MNLGVGAYR	490.76	19.96	43.56	2	490.75	14.83	43.95	2
GAGAFGYFEVTHD(+14.02)ITR(+14.02)	590.31	37.72	26.96	3				
AFEEEQDLR					568.77	12.54	41.18	2
SINPDEAVAYGAAVQAAILSGDK	754.08	58.10	60.05	3	754.08	52.90	76.25	3
VVFIFGPDK	511.30	35.90	35.23	2	511.31	28.54	39.81	2
VM(+15.99)LPAN(+.98)SFQGK	604.81	20.84	26.09	2				
LQIWDTAGQER					658.83	19.52	45.84	2
GLLPQLLGVAPEK	667.92	46.17	50.42	2	667.90	38.76	54.39	2
GHEITVLVPSTSSLLDHTQIPFNVEILETPISK					904.51	55.74	55.26	4
SSPPIPLAK	455.29	17.00	24.35	2	455.27	13.51	34.36	2
GLGTDE(+37.96)DAIINVLAYR	586.64	52.82	34.45	3				
EEAFYTLK					500.77	16.61	35.94	2
ALEDNMSLDEIMK					754.84	33.07	69.13	2
VLVC(-33.99)GAGPIGLVSLLAAK					824.05	57.10	45.5	2

VN(+42.05)PTVFFDIAVDGEPLGR					994.54	64.53	24.81	2
VAFTGSTE(+21.98)VGK	559.29	14.70	30.53	2				
GTDHLVNVFLGIPF	764.93	66.00	26.1	2	764.91	58.45	37.91	2
SLIDGILTDK	537.81	38.41	41.95	2	537.82	31.55	45.97	2
TLLSPAFTSGK	561.33	26.01	35.23	2	561.34	18.91	34.95	2
GAEEMETVIPVDVMR					838.41	37.63	47.06	2
NVISDILFHK	593.34	40.37	30.15	2	593.40	34.18	37.66	2
RPDPIDWSLK					613.83	18.40	52.17	2
VDLTPTYGLTMK	669.87	34.61	46.17	2	669.85	27.45	40.2	2
ALMLQGVD(+21.98)LLADAVAVTMGPK					712.38	63.24	48.39	3
ELFPVDTMR	554.29	32.24	44.15	2	554.31	25.05	39.29	2
QSVEADINGLRR	453.25	17.16	28.28	3	679.35	12.83	35.14	2
LNLEAINYLSAGGDFK	862.96	49.33	49.45	2				
FVGLQER					424.75	12.72	27.9	2
GYEEWLLNEIR					711.37	44.31	57.9	2
YVNTIGHR	480.27	12.74	29.43	2				
NVPEELSGAGLDYLAY					855.93	50.30	43.33	2
IWHHTFYNELR	505.94	48.55	29.96	3	505.95	13.37	71.7	3
VFIEDISK	475.78	23.65	37.88	2	475.76	17.19	37.3	2
IITHPNFN(+.98)GN(+.98)TLDNDIM(+15.99)LIK	767.75	43.69	33.74	3				
DSLSDDIVK					496.26	14.99	43.13	2
TPFLLSGTSYK	607.34	30.13	53.15	2	607.37	23.14	50.67	2
GNNISSGTVLSDYVGSGPPK	650.35	33.44	39.48	3	975.01	25.83	72.63	2
GLQNQIANSGLTVELDAPKPQDLSK	879.50	39.92	30.86	3				
LLDTAFDLDAFK	684.88	51.03	30.51	2				
LISLTDENALAGNEELTVK	677.38	42.34	44.94	3	1015.57	35.43	57.21	2
KDLYANTVLSGGTTMYPGIADR	781.75	37.39	58.1	3	781.72	30.39	74.75	3
EGITL					532.33	28.22	23.52	1
YFDLGLPNR	547.80	34.64	40.52	2				
GYFIQPTVFSDVTDDMR	995.99	52.94	37.72	2	995.98	46.76	68.57	2
TVSDLAVVLFETATLR	579.02	66.43	48.99	3				
EGITI					532.33	28.22	23.52	1
QVGATEC(+57.02)INPQDYEKPIEEVLK	854.12	44.16	30.98	3	854.11	37.53	46.75	3
DSFWSYLSTVR					680.82	47.45	64.9	2
ALLPSMIR					450.79	22.25	34.22	2
TGEAIVDAALSALR	693.90	52.39	54.08	2	693.90	46.45	58.57	2

APN(+.98)DFNLR					474.26	13.88	29.21	2
GVILTSDC(+57.02)PR					559.32	12.73	35.01	2
MGALDVC(+57.02)PFIPVR					737.89	40.19	40.32	2
GILAR					529.36	24.61	23.31	1
LFSNAYLM(+15.99)DLGGC(+57.02)IK	859.43	45.16	23.07	2	859.43	38.02	35.1	2
DQLLPNLR					484.80	21.77	26.34	2
YLPAFEN(+.98)VLK	597.84	41.37	29.59	2				
NS(+27.99)NVGLIQLNRPK	494.29	20.10	26.79	3				
ALATQLPVLPR	589.88	34.13	38.6	2	589.94	26.25	55.86	2
QAASSLQQASLK	616.34	12.92	43.88	2				
FAIEVGFR	469.77	34.15	42.5	2	469.78	27.56	44.43	2
APAAIGPYSQAVLVDR	814.47	33.05	58.49	2	814.46	25.65	71.64	2
NLGADAVGMSTVPEVIVAR					950.02	39.46	64.53	2
DM(+15.99)ELIYPFK	586.30	37.44	29.87	2	586.32	30.44	33.86	2
M(+15.99)PLSSIHLR	535.32	16.01	25.57	2				
GAGAFGYFEVTHDITR	580.96	35.94	61.93	3	870.92	28.88	66.98	2
DYKEPGIFK	548.80	18.11	28.14	2	548.82	13.75	38.68	2
SAYALGGLGSGW(sub L)CPNR	804.92	31.44	35.18	2				
ADM(+15.99)VIE(+21.98)AVFEDLNLK	582.30	60.30	31.1	3				
WTLLQEQGTK					602.34	18.50	48.4	2
IGLNETLLGIIAPFWLK					949.60	64.23	49.88	2
LGAGYPM(+15.99)GPFELLDYVGLDTTK	791.75	64.47	48.32	3	1187.17	59.88	24.38	2
T(+42.01)EQAISFAK	518.78	28.89	29.18	2				
LPFLLEDPVLSAIAK					813.49	57.02	49.31	2
AVLQELLEADLSDDAFPFSTHK	816.10	61.26	23.58	3				
QPLVIIGK	434.30	21.06	31.86	2				
LLLPSLISSR					549.87	34.50	38.59	2
LVVVGAGGVGK	478.31	16.94	32.6	2				
ASLNM(+15.99)FNK	470.74	12.87	27.45	2				
VVM(+15.99)IEPGYFK	599.83	27.82	31.72	2				
GIFQYNFGLIPYR					794.45	49.14	28.95	2
GGPLAAPYR	451.26	14.41	38.9	2	451.26	12.39	42.81	2
PYLLISTQIR					602.39	28.24	21.52	2
LLADPSGTFGK	553.32	23.75	40.9	2	553.32	16.93	37.11	2
SNAEFQLLR	539.29	26.08	28.19	2				
FSTWTNSEFR					637.79	19.45	52.39	2

DYFLFR	430.73	39.22	35	2				
VFAGPC(+57.02)GLQR					552.83	13.62	26.04	2
FYSVNVDYSK	611.31	24.39	38.26	2				
VGFFQGDIR	519.79	27.97	49.7	2	519.81	21.53	49.26	2
SQYEQLAEQNRK	498.59	11.77	36.72	3	498.61	11.85	44.6	3
TFLIIIK					424.28	30.89	35.1	2
TAALVALR	407.77	17.42	41.17	2	407.77	14.14	38.03	2
PALELLEPIEQK	690.41	39.87	35.75	2	690.40	33.18	42.84	2
LVGQGATAVLLDLPNSDGETQAK	766.43	43.29	53.7	3	1149.15	38.46	42.99	2
LIAINVNDPEASK	692.39	26.93	49.76	2				
INSVSSGLAEEDLEAILQSR	711.05	54.11	30.94	3				
TALLGLTK	408.77	21.78	29.65	2	408.77	15.77	38.29	2
AAVTAFW(+3.99)GK	477.77	23.82	30.43	2				
IEIESFYEGEDFSETLTR					1083.03	45.67	68.98	2
LSTETGFALLGGHPC(+57.02)	780.40	39.62	30.78	2	780.38	32.59	48.72	2
AIPLWAGAVITGFR					736.41	51.08	41.93	2
VAN(+.98)GAFTGEISPGMIK					796.91	28.87	51.09	2
TNAENEFVTIK					633.32	15.38	52.48	2
VN(sub K)VDEVGGEALGR					657.84	16.36	35.22	2
GVYSTQVGFAGGYTPNPTYK	703.02	40.19	35.91	3	703.00	25.90	62.54	3
TVLGSPEVLLGILPGAGATQR	683.75	58.53	62.67	3	683.74	52.86	63.95	3
AEAEAQAEELSFPR					774.37	19.82	61.84	2
LSSVLLNSHTDVVPVFQEYWSHDPFEAFK					848.70	55.77	32.78	4
DAVEDLESVGK	581.30	28.13	32.94	2				
TVTAM(+15.99)DVVYALK	663.87	33.12	45.54	2	663.84	26.65	45.8	2
HGGTIPIVPTAE(+21.98)FQDR	587.30	29.46	28.45	3				
ANWYFLLAR					577.36	41.50	51.22	2
VALAGTFHYYSC(+57.02)EK					549.31	16.69	28.89	3
GSSGGIQPDLLISLTAPK					877.52	42.35	56.95	2
ILGIPVIVTEQYPK					785.49	41.71	50.93	2
SILENLR					422.76	16.20	25.73	2
ASVLIVYGDQDPMGQTSFEHLK					812.42	35.09	47.57	3
PLISVYSEK	518.30	21.14	32.33	2				
NPHVVLSQLSQR	459.94	16.86	48.44	3	689.40	12.69	47.76	2
YAMQMEQLNG(+1.00)VLLHLESELAQTR					892.47	60.32	38.64	3
AAGC(+57.02)DFTNVVK	591.30	19.04	42.33	2				

IAIYELLFK	555.34	53.91	33.41	2	555.37	48.34	38.77	2
YLMDEGAHLHIYDPK	451.23	27.35	43.44	4				
GLAM(+15.99)VPLK	422.76	17.44	24.78	2				
HLSVNDLPVGR	402.91	19.95	30.07	3	603.87	14.45	64.32	2
ASVDSSRPILLQIAESAYR	692.73	47.77	57.71	3	692.72	41.19	60.75	3
LVIGQN(+.98)GILSTPAVSC(+57.02)IIR	671.39	54.62	33.43	3	1006.59	47.86	45.19	2
IITHPNFNGNTLDNDIMLIK(+27.99)LSSPATLN(+.98)SR					835.46	44.96	35.33	4
V(+42.01)VAGVANALAHR	610.36	41.22	30.19	2				
DTPGFIVNR	509.78	22.27	51.93	2	509.79	16.36	47.59	2
DLSSVQTLLTK	602.85	38.92	34.36	2				
FHHTFSTEIAK	439.91	11.85	48.3	3				
MSIIWEK					453.75	20.08	35.32	2
TSLSPGSGVVTYYLR					800.45	31.05	54.41	2
HHAAYVNNLNVAEEK	570.30	12.08	37.07	3				
ELISNASDALDK					638.33	15.81	54.46	2
TSIAIDTIINQK	658.90	33.20	57.93	2	658.88	25.98	52.97	2
EDPTVLELK					522.29	17.99	39.65	2
IPQTVLWR					506.83	21.16	38.45	2
LAASEAATAITHQAM(+15.99)QILGGM(+15.99)GYVK					855.48	44.27	38.77	3
DPLVIELGQK	556.33	32.88	43.35	2				
WLIPLLEGK					534.85	45.88	28.11	2
ALLELQLEPEELYQTFQR	740.75	61.18	37.3	3				
LTQSN(+.98)AILR	508.80	14.94	33.65	2	508.81	12.65	35.82	2
GGETVLVSAAAGAVGSIVGQIAK(+21.98)					693.06	59.53	23.5	3
SDVLELTDDNFESR					820.38	29.05	55.21	2
M(+15.99)NQDPVGDEVLHFLLK	624.34	52.51	26.15	3				
ASSTANLIFEDC(+57.02)R					742.35	19.95	44.68	2
LLFPSFIHSQK	658.89	54.27	22.66	2	658.87	34.86	34.68	2
ALLEVLGR	435.79	30.64	31.01	2	435.79	23.72	34.3	2
GNPESSFSDENLR					726.33	13.48	60.25	2
FQLQSDQLR	567.81	20.69	33.32	2	567.83	15.16	35.04	2
ASLEAAIADAEQR					672.83	23.23	57.77	2
FAPPQPAEPW(+31.99)TFVK					823.94	36.73	25.55	2
GKPIHHFLGTL(sub S)TFTQYTVVDEMSVAK					730.64	38.05	40.31	4
GSNATSSLYQAVAK	698.87	20.64	62.17	2	698.88	15.08	59.93	2
NFAATIPR	445.26	18.03	25.28	2				

GPIAVNIQDK	527.81	17.53	49.61	2				
DALLFPSFIHSQK	501.61	41.52	46.64	3	501.61	34.79	48.16	3
AMLSNQHIPLESSNLFK	643.69	35.35	40.27	3	643.67	28.46	63.06	3
LTPPLEDSR					514.28	12.74	40.73	2
IEFEGQSVDFVDPNK					862.42	32.57	79.82	2
DFIDAYLQEIEK	742.40	59.52	40.11	2	742.39	54.89	62.62	2
SEDLLDYGPFR					656.31	36.41	42.29	2
KFSLDQLITH	401.24	33.02	28.19	3				
IYFMAGASR					508.29	16.64	48.86	2
VQTLTLQDGLIPLEIR	603.70	54.10	30.77	3	905.05	48.37	64.37	2
IFLMDLNEQNPR	745.40	38.17	63.36	2	745.39	31.31	60.72	2
MILPVGAENFR					623.83	28.51	40.28	2
FADIVPLGLPHMTSR					827.47	35.70	52.05	2
LSFQHDPETSVLILR	585.67	36.42	56.4	3				
HYGPGWVSMANAGK					737.87	14.68	67.74	2
TDLEM(+15.99)QIEGLKEELAYLK(+27.99)					723.04	53.50	38.4	3
N(+.98)GFLLDGFPR	568.81	50.99	26.98	2	568.82	44.82	35.08	2
DFADIPNLR	530.79	35.56	30.96	2				
GAWSNVLR					451.77	16.24	40.98	2
LNNLVLFDK	538.33	31.92	36.07	2				
SLHQAIEGDTSGHFLK	580.64	17.09	77.96	3	580.66	12.77	75.58	3
TAVVVGTITDDVR					673.36	19.93	50.3	2
SLGQMPVIIAGNDQQQK	609.67	32.65	43.74	3				
AQGLVTHAIYQQAQC(+57.02)LLK					681.35	32.55	52.31	3
VGDAIPSVEVFEK	695.38	36.48	28.53	2				
ILHGEQYLELHKPIPR	486.54	19.58	63.72	4	648.37	13.76	77.77	3
LERPVIHIDQTGENVLVETLNHELYEAK	652.76	49.02	44.13	5	815.70	43.24	58.23	4
DIQYLPLIK	551.85	42.83	32.79	2				
C(+39.99)IPALESITPANEDQK					884.94	48.66	39.66	2
LVGPEAPLVLER	646.89	33.68	37.59	2	646.89	27.07	37.07	2
NWRPPQPIK					568.36	12.33	40.65	2
FYVFVQK	465.77	25.34	38.54	2	465.78	19.26	42.65	2
AVAIDLPGLGR	541.33	36.88	39.36	2	541.36	29.69	50.64	2
YIDLVPTNLPHAVTR	570.34	49.89	29.28	3	570.37	28.81	52.49	3
IITHPNFN(+.98)GN(+.98)TLDN(+.98)DIMLIK					762.73	41.43	44.51	3
KLDVLSNDLVVNVLK	557.02	57.99	44.2	3	835.02	39.01	60.63	2

SKAEAESLYQSKYEELQITAGR					626.10	20.00	43.28	4
LNLPVLLEDSVLC(+57.02)AIAK					934.55	62.51	36.55	2
TFDIQLGDIVDEIQR	587.98	57.79	61.36	3	881.48	52.11	59.47	2
YAGLQGLMSVLAEIRPK					616.01	55.26	70.26	3
GILAADESVGTMGNR					745.87	17.86	79.34	2
AQDEGLLSDVVPFK	759.41	47.04	65.88	2				
ILIPALM(+15.99)VTAEK	657.90	39.28	24.1	2				
YALTHPDTVEGLVLINIDPNAK	798.45	49.49	46.75	3	798.45	43.73	25.88	3
TVLSGGTTMYPGIADR					819.92	23.11	57.94	2
LGGK(+42.05)LSSEDKETMEK					424.24	11.85	29.18	4
FAAEHTIF	468.25	25.11	38.57	2	468.25	18.86	29.46	2
FVEGLYK	428.25	18.14	34.26	2	428.24	14.02	30.56	2
AISGPFNVQFLVK					710.40	41.34	59.53	2
LPVPPLQQTLDHYLK	588.02	46.57	25.44	3	588.08	39.84	42.53	3
IAEIFMR	440.25	25.28	37.76	2	440.26	19.42	35.77	2
AAEMLLFGK					490.30	25.45	44.95	2
IAPSFAVESIEDALK	795.45	52.97	43.33	2	795.42	47.34	66.1	2
GGWTVIQNR					515.78	14.62	40.95	2
TILDELVM(+15.99)R	553.31	39.66	23.97	2				
AGIPVYAWK					502.78	22.44	49.28	2
EVLLDYK					440.25	15.39	32.41	2
EVSGGGVD(+21.98)FSFEVIGR	559.61	45.54	24.86	3				
LEGLTD(+37.96)EINFYR	503.24	41.42	25.69	3				
LPVVLGHEGAGIVESV(sub I)GEGVTTVRPGDK	693.91	40.19	41.54	4	693.88	33.43	42.47	4
PLLDDSQFR	545.79	25.34	24.32	2				
LTFPGGLLIGC(+57.02)SPGFMNVPK					702.39	54.62	32.44	3
DMNLTLEPEIFPAATDSR	674.02	53.99	49.4	3	1010.52	48.13	41.85	2
MPFVSTNYYILK					738.40	37.50	47.37	2
SGHPLGLFPSSPEAPR	550.30	25.25	32.46	3				
VVEEAPSIFLDSETR					846.43	30.58	67.19	2
GEVITTYC(+57.02)PANNEPIAR					952.99	18.72	48.5	2
LFVEES(+27.99)IYDEFVR	837.42	55.15	31.04	2				
DSYWLPSLVLAR					710.38	51.65	35.94	2
EFEEFVQSSGK					643.80	16.10	58.85	2
VFADYEAYVK	602.81	30.22	48.14	2	602.82	23.16	51.12	2
ALSQGFQASWNQASPEIK					981.53	27.03	52.77	2

SFAVGTFK	428.74	20.32	33.2	2	428.73	15.40	32.23	2
AAPFTLEYR	534.30	27.46	29.37	2				
ILMAIN(+.98)GK					430.75	15.67	24.56	2
FEYIITAK	492.79	25.09	27.42	2	492.80	18.95	31.93	2
M(+15.99)VVESAYEVIK	642.34	24.20	36.35	2				
IAVGSDADIVIWDPK	799.93	43.58	51.41	2	799.92	38.59	64.3	2
QIDDVLSVASVR					651.34	27.35	39.5	2
ILENIQVFDFTFSPEEM(+15.99)K	735.05	58.89	33.53	3				
FAYPDTHR	503.76	15.42	29.08	2				
SYLENPAFMLLDLK					827.45	55.73	54.25	2
VPPETLANTLAELDR	819.94	44.60	38.3	2	819.94	40.79	62.41	2
IEGLDIHFIHVKPPNLPSGQTPK					635.11	30.89	51.32	4
GGVIK					473.32	20.22	27.26	1
LDLDFPNLPYLMDGK					875.96	57.17	54.95	2
LVPMPTPGLTLGK					662.38	31.25	33.43	2
SFENSLGINVPR	666.87	33.29	45.55	2				
TLGV(sub I)DFIDVATK					639.85	36.03	34.51	2
LQDPFSLYR	569.82	36.28	37.8	2	569.85	29.38	42.76	2
FVFITGC(+57.02)DSGFGNLLAR					937.48	49.59	49.57	2
VAASSAVMGLIETTR					753.42	33.70	74.53	2
GLGTDEDTLNEILASR	568.64	45.29	37.23	3				
WTEYGLTFTEK					687.85	28.56	51.28	2
FFESFGDLSTAD(+21.98)AVM(+15.99)NNPK	710.01	42.74	29.1	3				
RFSLTTLR					497.29	13.88	35.82	2
KLHLFDIDVPGK					461.29	24.79	43.19	3
LDLDFPNLPY	603.82	61.71	22.57	2				
KPFAEYIYK	579.83	19.02	51.01	2	579.82	13.85	57.87	2
SEFEAQNIWYEHR					570.30	21.08	49.28	3
NAGVEGSLIVEK					608.34	14.54	62.01	2
LFSNAYLMDLGGC(-33.99)IK					805.94	45.03	31.65	2
TFASPTQVFFNSANVR	595.99	42.68	32.66	3				
KFYGPEGPYGVF					680.83	32.51	30.33	2
VLAEHGVAALFTAPTAIR	613.02	40.07	40.76	3	613.04	33.13	48.35	3
TFDTFC(+57.02)PLGPALVTK	833.95	45.74	34.4	2	833.94	39.31	52.15	2
DAGA(sub V)PTYMYEFQYR					856.38	32.68	29.18	2
LC(+57.02)ENIAGHLK	577.81	13.25	34.55	2	577.82	12.05	41.76	2

LQHGTILGFPK	404.25	22.52	37.44	3	404.26	15.63	42.95	3
PYTPVSSDDDKGFVDLVIK	699.05	41.31	27.88	3	699.03	37.66	41.06	3
FFESFGD(+21.98)LSTADAVMNNPK					704.66	42.46	33.98	3
KVEFVSELPK	588.34	20.08	43.4	2	588.38	15.00	46.02	2
GGVLK					473.32	20.22	27.26	1
YPIE(+14.02)HGIVTNWDDM(+15.99)EK					659.64	21.33	38.05	3
ALLTPVAIAAGR	576.87	33.26	39.71	2	576.88	25.93	43.56	2
VLDELTLAR					515.31	20.74	45.16	2
AFAMTN(+.98)QILVEK	683.37	33.62	47.13	2	683.35	26.42	53.98	2
EPSPDSGLLGLFQDQN					858.92	53.67	41.43	2
FYAPELLYYANK	746.39	50.45	38.48	2	746.38	37.30	42.81	2
TGASQVLTSLSPDLPLR	585.67	46.02	25.85	3	878.02	39.99	54.36	2
RSPNPALWWVNDQGDEVK					704.36	29.05	73.44	3
GYEPDPSITK					553.79	12.38	39.9	2
SDIGEVILVGGM(+15.99)TR	731.90	34.58	36.52	2				
KLDLPGAALEAASR	471.29	28.74	35.83	3				
GTFAALSELHCDK					696.34	22.46	47.64	2
TIVAINKDPK(sub E)APIFQVADYGIVADLFK					982.89	60.35	34.66	3
VTVAGLAGK	408.27	14.32	39.58	2				
VGVIDLSPFGK	566.33	41.86	54.51	2	566.38	35.39	46.78	2
LFQWAQK					460.75	16.97	28.41	2
ANNTFYGLSAGIFTNDIDK					1031.03	45.41	55.62	2
DGEVLLEALYLTVDPY	905.47	68.22	45.84	2				
WISIMTER					518.31	23.36	26.79	2
FGNVFSLQQVWTPVVVLN(+.98)GLAAVR					872.53	62.38	46.71	3
KVESIIHSEPELSLK	570.33	22.40	47.44	3				
RPFTQNLGLEELGIELDTR	734.41	47.45	47.41	3	734.40	41.80	49.12	3
APMFSWPR					496.24	26.00	52.8	2
SLYNLGGSK					469.74	13.05	37.75	2
AKPVVSFIAGLTAPPGR					561.03	31.23	47.55	3
VVTVLTWPGTNPK					706.39	28.77	51.39	2
FLSQPFQVAEVFTGHLGK	669.04	52.06	34.46	3	669.02	46.22	68.72	3
QT(-18.01)PALVALR	475.80	21.36	30.89	2				
LSTSEGLIFQLVGDATHPQFK	763.42	57.96	27.4	3	763.42	53.49	37.68	3
QVALMVQER	537.31	17.58	32.03	2				
SGPPVIHSGIK	546.33	12.04	27.82	2				

VDAIAETDLAK					573.34	14.58	49.05	2
VYGTVMHMNHGNPFNLK					653.66	18.47	74.37	3
LITLEQGK	451.28	14.97	30.57	2	451.28	12.78	33.66	2
FKDLGEEHFK	417.23	12.59	31.73	3	417.22	11.91	54.16	3
YMVGPIEEAVAK	653.85	30.09	35.01	2				
Q(-17.03)SVESDIHGLR					612.32	15.83	45.72	2
LEEM(+15.99)LKPLVEEGLR	557.99	30.19	57.57	3				
RPIHLSFDVDGLDPSFTPATGTPVQGGLTYR	829.45	47.66	52.31	4				
DAQLFIQK	481.78	21.00	36.66	2	481.78	15.86	36.81	2
AFAISGPFNVQ					575.84	40.40	37.42	2
AVQM(+15.99)GMSSVFFNK					731.37	22.28	41.71	2
LVVAGHLLK	475.32	17.27	42.63	2	475.33	13.25	45.07	2
DFPEELPGMKPF	703.84	50.02	23.44	2				
EVDILISTALIPGK	734.95	50.10	42.36	2				
VDILENQVM(+15.99)DVR					723.87	20.49	42.23	2
IFGVTTLDIVR	617.38	52.63	44.36	2	617.39	38.62	53.55	2
DAM(+15.99)FSNLIGQLDYR	829.91	48.65	44.44	2				
QAFQIGSP(+15.99)WR	603.33	27.93	32.97	2				
ISSLYGDLR	512.29	22.40	30.28	2	512.31	16.74	33.13	2
APYNVISDILFHK	506.28	49.02	27.8	3				
IITSILEK	458.80	23.16	29.73	2	458.81	17.53	31.17	2
ASWSSLSIDEK					611.83	19.81	40.83	2
TGPNLHGLFGR	584.83	25.23	30.23	2	584.84	17.47	57.75	2
NPPV(sub I)NALSLELLTELVISLEK					764.80	64.73	34.93	3
TAHLVHELR	538.32	12.30	39.03	2	538.32	11.91	44.3	2
AGQQGLSVAFDLATHR	557.65	33.26	38.91	3	557.68	26.36	59.54	3
M(+15.99)VEGFFDR	508.74	22.06	28.23	2	508.75	16.88	34.91	2
PGEAGLLLTQVLR	683.92	46.80	38.71	2				
LAHEDPDYGLR					429.21	11.99	61.3	3
LGISSLIR	429.78	30.57	38.94	2	429.79	23.43	37.16	2
SGLSLSGIVHQELSR					528.35	30.04	37.68	3
QVVE(+21.98)AVPVLLSIPGLAAK	609.39	58.97	35.26	3				
LGEHNIDVLEGNEQFIN(+.98)AAK(+14.02)					742.71	30.94	46.84	3
NILYM(+15.99)ASETIK	649.85	25.70	35.35	2	649.83	19.34	27.31	2
AIEEQVAVIYAGVR	759.44	38.06	53.74	2				
C(+39.99)DVVVVGGGISGMAAAK	787.40	46.70	36.1	2				

DYFFALAHTVR					447.25	31.08	53.96	3
SAVEQAC(+57.02)IGYVYGDSTSGQR	716.68	27.33	31.94	3				
GVTLFSSTK	470.27	18.20	30.92	2				
YLGPAVLM(+15.99)QAYR	699.38	32.87	41.83	2	699.38	25.73	36.3	2
VADISLAAW(+31.99)GR	595.82	24.11	32.19	2				
IHFPLATYAPVISAEK	586.34	41.10	24.41	3	586.40	34.12	47.9	3
VSHVSTGGGASLELLEGK	580.99	24.28	46.95	3				
GLEVGVLVNNVGQK	713.43	32.81	56.01	2	713.42	25.54	58.53	2
N(+.98)SYLEVLLK	540.32	50.58	25.57	2				
TFIIGELHPDDR	471.60	28.55	45.54	3	471.60	21.70	44.97	3
DAGTIAGLNVM(+15.99)R	617.33	24.10	36.71	2				
GPN(+.98)GLLVYQGK	573.82	23.62	46.42	2	573.86	17.36	43.62	2
LLEDPVLSAIAK	634.89	40.92	42.76	2	634.86	35.28	40.46	2
ISVNNVLPVFDNLM(+15.99)QQK	659.04	50.14	29.65	3				
GILFVGSGVSGGEDGAR	789.41	32.16	23.82	2				
IGIIGGTGLDDPEILEGR	912.99	49.06	40.9	2				
HIAAAIEVHEVLLPGLQK	485.30	35.10	23.4	4				
VALLSGGGSGHEPAHAGFIGK	491.28	19.60	39.76	4				
THLPLALLPK	551.86	29.47	45.73	2	551.90	22.01	50.41	2
DC(+57.02)PAAFSDIQDVHILSGFVR	749.73	53.90	38.32	3				
YSLKPNDQILAEEK	824.45	21.87	33.06	2	824.45	15.62	40.48	2
TFSHELSDFGLESTTGEIPVVAVR	864.46	□□□	53.94	3	864.46	43.27	56.53	3
IAPAIAAGNTVIAK	655.41	24.05	40.59	2	655.39	16.91	54.75	2
VVLVLAGR	413.79	21.84	23.72	2				
QGLSSSIFTK	534.30	22.16	40.11	2	534.30	16.48	51.43	2
LALGDDSPALQEK					678.85	16.43	68.38	2
TLYEGFQR	507.26	18.14	35.81	2				
HIEVQILGDQYGNILHLYER	603.33	47.48	27.06	4				
AFNLR					620.34	37.74	27.12	1
ALQELFPDWK					623.86	37.46	44.12	2
APNSPDMLEIEFK	745.88	38.53	45.71	2	745.86	32.27	68.55	2
PASGR					487.29	68.42	20.86	1
AVVGVVAGGGR	471.30	13.23	27.55	2				
SVVSAQC(+57.02)PFGGFK	692.36	29.39	32.58	2	692.33	22.29	22.43	2
EEQIPDGMC(+57.02)IDVEGK					860.39	25.33	30.93	2
YLTPLPQPNR	599.85	22.48	36.37	2				

ALTGGIAHLFK					564.38	20.44	50.51	2
APM(+15.99)FSW(+15.99)PR	512.25	22.07	22.86	2				
SFYPEEVSSMVLTK					808.91	36.10	59	2
IGFTGSTEVGK	548.30	17.00	43.91	2	548.32	13.40	48.07	2
LSTETGFALLGGHPC(+57.02)F					853.95	43.08	22	2
VPADTEVVC(+57.02)APPTAYIDFAR					731.36	41.33	54.23	3
RFDVSSYPTLK	438.24	22.76	36.21	3	656.85	16.28	45.35	2
LALGGGLELALGC(+57.02)HYR					567.36	33.68	44.13	3
FENAFLSHVISQHQALLGK					713.73	34.42	67.28	3
DLEDGGLER					502.25	13.09	37.35	2
WLLSHTEQRPQVAVIC(+57.02)GSGLGGLVNK					705.62	33.61	35.01	4
NAYAVLYDIILK					698.41	52.21	66.87	2
AIEILGGELGSK	593.84	32.68	38.86	2	593.87	25.60	48.94	2
TPSEGAGLQSTLVFEEIGR	664.36	45.18	30.38	3	996.04	38.71	71.83	2
YGVEAFSDILR	635.35	43.72	56.53	2	635.33	37.03	59.22	2
VGWEQLLTTIAR					693.90	50.59	58.34	2
EEASDYLELDTIK					763.37	29.46	70.98	2
YFDQVDISN(+.98)GLDWSMDHK	724.35	45.24	42.38	3	724.32	39.68	60.31	3
EAHFLLEVLR	409.59	36.23	38.73	3	409.57	29.81	36.81	3
EQGYDVIAYLANIGQK	594.66	55.41	60.4	3	891.47	51.20	67.61	2
VVVPGVVGAR					476.80	14.64	37.16	2
IINSTK					675.50	70.82	20.9	1
AQIFANSVDNAR	653.34	17.49	56.6	2	653.33	13.50	50.58	2
VQTLIYPALQNFDFDLPSYR					800.77	57.13	74.01	3
GHEIVVVVPEVNLLLQESK	701.42	50.73	58.32	3	701.40	45.54	58.4	3
GTGEMTQLLNSLC(+57.02)TAVK					912.00	45.88	37.4	2
GM(+15.99)SLNLEPDNVGVVVFGNDK	707.37	46.69	34.17	3				
FKPEHFLNEN(+.98)GK	487.59	14.29	42.77	3				
DIVSDTSGDFR					606.31	18.12	49.29	2
FLQFVR					405.23	19.23	27.51	2
WAVQVIK	422.27	23.75	25.8	2	422.28	17.29	31.9	2
FSMVIEDGIVK	619.34	36.98	32.14	2				
REPWLLPSQYHEIIR					646.35	26.83	51.96	3
AVFPSIVGRPR					400.26	15.70	45.07	3
DFTPVC(+57.02)TTELGR					698.34	21.97	38.25	2
TKYPNLISY	549.81	27.47	25.49	2	549.83	20.82	35.23	2

TIAMDGTEGLVR					631.83	18.27	55.94	2
LSLTLDDSLLVPAGTLYGWER					1160.18	59.26	21.74	2
IGIASQALGIAQAALDC(+57.02)AVTYAENR					859.46	63.77	37.24	3
EGASILLDGR					515.79	16.70	43.78	2
S(-2.02)CAAAGTECLISGWGNTK					883.92	28.54	22.61	2
VAGLLVLNYSDDYHHWLATK	579.58	60.14	40.29	4	579.62	39.77	61.69	4
FIITAGSK	418.75	16.26	30.61	2	418.72	13.15	29.46	2
FVGTVDPIMEK	618.34	27.24	39.33	2				
ALADYIR	411.24	21.69	27.64	2	411.24	16.29	23.47	2
QAEMLDDLMEK					661.80	25.85	55.93	2
IDQLEGDHQLIQEALIFDNK	780.43	47.90	45.41	3				
E(-18.01)AHFLLEVLR	403.58	36.42	23.49	3				
ALDFIASK	432.75	22.06	25.61	2				
Q(-17.03)FLLAAEAIDDIPFGITSNSDVFSK					894.48	65.81	26.37	3
IEYGGLGHEVQVEHIK	452.76	21.24	62.85	4				
IASALAQIPQK	570.35	20.30	50.28	2	570.38	14.56	56.58	2
P(+42.01)FVELDTSLPAGR	722.39	57.16	38.25	2	722.38	51.27	39.39	2
HQAQIDHYLGLANK	536.63	17.73	37.61	3	536.65	13.31	75.93	3
ASVPDGLLSELTQQLAQATGK	709.73	65.53	41.63	3	1064.12	58.96	48.19	2
LFIER					677.40	13.27	29.48	1
SISVAR					632.36	43.10	21.2	1
AEAESLYQSKYEELQITAGR					762.73	24.23	78.82	3
NPVNYFAEVEQLAFD(+21.98)PSNM(+15.99)PPGIEPSPDK	810.90	63.42	39.3	4				
AAEYGAEALER					590.30	12.81	56.29	2
EIAM(+15.99)LVSR	467.76	15.94	22.52	2				
GYPTLLLFR					540.37	39.07	41.08	2
ILTTNTWSSELSK					740.40	22.75	63.06	2
M(+15.99)LVVLLQGTR	573.35	28.99	38.84	2	573.36	22.01	24.2	2
VPGATM(+15.99)LLAK	508.80	18.45	38.81	2				
VDEFVTHSLPFDQINEAFDLMHAGK	715.88	57.67	55.44	4	715.86	52.18	61.05	4
MLLADQGQSWK					638.81	18.55	56.05	2
LPPGPFPLPIIGN	666.40	63.61	38.79	2	666.38	57.85	36.66	2
VTVLFAGQHISK	433.93	20.50	24.37	3				
DSFFQVK	435.73	24.77	27.03	2	435.73	18.65	41.51	2
PGTPYLDIVR	565.83	30.13	35.86	2				
NVGSAGVTVVIV(sub I)R	635.89	25.81	27.03	2	635.88	19.15	39.49	2

ALELVTVLVGSPR	677.42	48.40	39.05	2	677.39	42.10	40.44	2
SLIDGILTDKK					401.59	22.67	50.05	3
VDLTPYPTISR	631.36	29.72	47.14	2	631.35	22.08	48.04	2
LGGSAVISLEGKPL	670.92	35.02	25.76	2	670.89	28.53	48.97	2
AAYFGVYDTAK	603.31	24.88	34.61	2				
AAVPSGASTGIYEALELR	602.34	43.14	58.34	3				
LASTLVHLGEYQAAVDGAR	657.70	32.90	32.69	3	657.68	26.34	52.27	3
TVMENFVAFVDK	700.37	47.10	54.56	2	700.35	40.86	65.16	2
GTDHLVNVFLGIPFAQPPLGPHR					621.39	47.83	43.22	4
PQFLGVAEQLHNEGFK	605.33	35.19	56.13	3	605.35	28.56	58.87	3
QISTLHAQVTDM(+15.99)R	505.94	12.52	24.09	3				
Q(-17.03)SGGYVATVGTK	575.80	18.99	38.16	2	575.83	14.23	41.84	2
GLVLGIYSK	475.31	28.73	29.56	2				
GFGSDKEAILELITSR					579.35	40.95	45.53	3
LK(+72.06)EWVNPNLPFLLEDPVLSAIAK					893.51	63.21	27.15	3
L(+14.02)ALVTGAGGGIGR	578.36	22.92	26.15	2	578.39	16.17	35.3	2
EQGFLSFWR					585.33	40.36	45.26	2
SELATYPGITISNIC(+57.02)PGPVQSNIVK	886.82	47.76	51.93	3	886.83	41.64	45.02	3
TVLIM(+15.99)ELINNVAK	737.43	50.32	38.26	2				
GSLQHAETFLQNLK	529.30	31.43	32.44	3				
HGLALSNLGAVSDVTAGGVIGSGTHNTGIK					701.64	30.90	35.87	4
WKPFEIPK					522.83	19.42	28.96	2
AIGAVPLIQGEYMIPC(+57.02)EK					995.04	41.23	35.19	2
LGPLAFYK	454.78	30.17	35.55	2	454.79	23.47	22.7	2
VIHDHFGIVEGLMTTVHAITATQK					655.35	46.36	77.55	4
PEEHPVLLTEAPLNPK	595.35	29.35	44.67	3				
GGGFSSGGFSGGSFSR					725.81	17.07	45.67	2
LSVISVEDPPQR	670.38	25.00	64.14	2	670.35	18.08	54.63	2
GDFVTSFYWPWQTK					881.44	53.82	54.57	2
ELSYFGVK	471.76	24.99	34.39	2	471.77	18.83	37.98	2
DILNMEK					431.73	15.52	29.8	2
KDLYAN(+.98)TVLSGGTTMYPGIADR					782.07	31.53	27.23	3
GLVSR					531.34	37.87	24.77	1
LYWNLMLR					554.84	39.39	29.13	2
VC(+114.04)LIGCGFSTGYGSAVK					888.43	28.61	28.3	2
VQQTVQDLFGR	645.86	28.12	52.95	2	645.84	21.14	56.21	2

NIVLSGGSTMFR					641.34	24.14	34.17	2
PMILGYWDIR					632.35	42.73	38.17	2
AAVLWELNKPF	644.38	54.87	34.03	2	644.36	40.52	39.66	2
DVDPGEHYILK					643.32	14.52	46.68	2
TLVPELIK	456.80	30.11	26.35	2	456.82	23.60	32.86	2
LLLLGTGESGK	544.33	25.99	29.83	2				
GFVDLVIK	445.78	36.62	35.38	2				
YPGMPDLAPDEPGR					757.85	24.58	68.61	2
LGQLEGLLQAR	599.36	34.21	35.42	2				
SQYLQQC(+57.02)PFDEHVK	593.63	20.49	31.97	3				
FQSSHHPSDMTSLDQYVER	566.78	23.30	59.75	4	755.34	16.13	83.69	3
NSIPK	558.32	36.59	22.6	1				
DGPLNM(+15.99)ILDDGGDLTNLIHTK	756.74	57.53	37.16	3	756.73	51.93	43.42	3
LADMALALESAR					630.83	26.86	62.55	2
QLAPIWDK					485.78	18.72	33.59	2
EVSGGGVDFSFEVIGR	827.92	45.19	51.43	2	827.91	39.80	79.89	2
SIGVSNFNHK					551.81	11.95	39.95	2
KVFIEDISK	539.82	16.30	44.27	2	539.84	13.02	45.38	2
LC(+57.02)YVALDFEQEM(+15.99)ATAASSSSLEK	856.08	44.07	36.18	3				
YLGSFYTDSLVHDPLALK	680.37	47.24	31.85	3				
ALEEVC(+57.02)IETIEAGFMTK	647.66	53.28	28.56	3				
NVSTGDVNVEMNAAPGVDLTQLLNNMR					958.17	56.04	73.15	3
AVQMGMSSVFFNK					723.34	30.71	70.57	2
IITHPNFN(+.98)GNTLDN(+.98)DIMLIK					762.39	39.91	44.55	3
L(+27.99)HVDPENFK	563.80	28.93	33.99	2				
VGIVGYGR	410.75	15.63	33.65	2				
GLDVDSLVIEHIQVNK	593.68	42.50	32.73	3				
ADHGDEVLFLFR	473.58	41.38	36.78	3				
VFSGLVSTGLK	554.34	28.52	29.7	2	554.34	21.43	50.5	2
ENC(+114.04)HCGESPVWEEASNSLLFVDIPAK					996.85	47.31	35.79	3
GLTLSWIGDGNNILHSIMM(+15.99)SAAK					815.77	57.90	24.88	3
GPLLVQD(+21.98)VVFTDEMAHFDR	737.70	51.68	43.62	3				
AVEHLDDLPGALSELSDLHAHK	474.25	38.61	63.42	5	474.26	32.04	78.3	5
FAQVLPDGTYVK	669.38	29.46	29.7	2	669.36	22.31	24.08	2
GLAVSDN(+.98)GPC(+57.02)LGYR					740.36	20.28	47.82	2
AGDTVIPLYIPQCGEC(+114.04)K					960.98	34.83	21.5	2

IVNVSSILGR	529.33	32.96	55.21	2	529.33	25.78	51.9	2
KLEAAEDIAYQLSR	536.30	30.85	24.37	3	536.32	23.93	54.85	3
GSLGGGFSSGGFSGGSFSR					854.39	23.97	77.6	2
ISMNPMLLLTGR					673.34	46.03	35.86	2
IYSTLAGNR	497.78	12.91	38.25	2				
KFPVFN(-17.03)PATEEK	463.92	21.07	29.34	3				
GNPTVEVDLFTAK	695.88	35.03	53.05	2	695.88	28.03	61.35	2
LQHLQAPLSWELVR					564.05	31.34	42.73	3
LGLDSLSPFNPK	644.36	42.46	43.29	2	644.35	35.49	53.3	2
HYTIAALLSPY	624.84	45.08	33.09	2				
LLVVPQDGSHWLSMK					570.70	32.40	24.69	3
VTKPNIPEAIR	413.26	15.67	48.16	3				
GILIGIQQSFRPQFLGVAEQLHNEGFK					757.44	48.91	49.05	4
EIENLILNDPDFQHENLNFLSR	890.81	54.66	24.07	3				
IGDLQPQIVNLLK					725.95	41.06	30.4	2
GAPDTAALDELGLSK					729.38	28.84	52.59	2
LQAFQGYQVTMK					707.35	21.83	60.68	2
IIPFLTDPK	522.33	36.86	27.3	2	522.34	28.86	36.69	2
GFIGPGVD(+21.98)VPAPDM(+15.99)STGER	647.32	34.55	25.11	3				
TVQSLE(+37.96)IDLDSMR	515.59	39.66	34.37	3				
TYEQVLENLESK					726.87	29.25	70.05	2
IGGGL	416.26	17.34	26.05	1				
T(+27.99)YFPHFDLSHGSAQVK	621.32	37.24	31.46	3				
AM(+15.99)IVEAYPK	519.28	14.48	25.26	2				
TVAGQDAVIVLLGTR					756.94	38.34	75.34	2
IGGGI	416.26	17.34	26.05	1				
HLTPVTLELGGK	422.26	22.96	42.9	3				
AASFLLALEPELEAR	815.46	54.20	39.52	2	815.46	48.89	36.38	2
SLAMEMVLTGDR	661.84	37.09	62.19	2	661.82	32.30	66.22	2
VALVTASTDGIGF	625.85	48.18	44.72	2				
GSLPQSVAYLTAPDLAR	587.00	42.55	41.67	3	879.98	35.98	57.48	2
VALLELGC(+57.02)GTGANFR					789.43	32.71	52.16	2
SESDPAYQLYQDAANSLR	676.66	49.47	55.88	3				
IM(+15.99)DQALTVGAPVIGLNDSGGAR	724.40	40.01	38.82	3				
FIEKPEDLDK	411.90	15.25	30.32	3	617.31	14.81	41.99	2
AVDAGLSVKPY	560.31	22.91	44.79	2				

PLPTLEHPIIPADYVAIK	663.06	44.30	35.33	3				
LGLDFPNLPYLIDGAHR	637.70	62.89	61.39	3	637.67	50.00	70.38	3
EVGDVTIVVNNAGAIYPADLLSTK	820.46	56.63	48.44	3				
GTLQSYFD	465.73	34.02	23.84	2				
TYFPHFD(+37.96)LSHGSAQVK	468.73	27.62	25.43	4				
Q(-17.03)AVSM(+15.99)FLGAVEEAK	739.87	53.24	31.57	2				
ILFDGIPLEK	572.85	41.87	46.81	2	572.86	35.06	45.22	2
INMAHLC(+57.02)IVGSHAVN(+.98)GVAK	498.80	25.13	24.39	4				
SQLLGSAHEVQR	442.25	12.00	35.41	3				
IQEIIEQLDITTSEYEK	684.70	46.39	55.47	3	1026.54	41.39	48.1	2
GAPGVIVNVSSQASQR	523.97	21.00	56.9	3	785.41	14.87	70.46	2
DGGSTTAGNSSQ(+.98)VSDGAAAILLAR	740.72	45.14	36.34	3				
SEDSPAIEAIR					594.33	14.00	47.46	2
DGPLGFYHGLSSTLLR	578.33	47.12	58.07	3	578.37	40.57	49.13	3
LPSEGPQPAHVVVGDVR	586.34	20.59	77.93	3	586.34	14.26	79.24	3
QNLYLVGFGK	569.83	34.49	37.34	2				
NKPLFFADK	540.31	16.11	45.56	2				
ITGGASGLGLATAER					687.38	15.35	51	2
IGC(+57.02)TPVLVLSGLDTVR					850.48	42.13	41.92	2
Q(-17.03)LLQANPILEAFGNAK	855.48	66.14	39.95	2				
VLTEEDIGHPEIGDAITR					655.66	23.78	52.73	3
TSGTLISFIYPAQNPDLLNK	731.41	54.77	36.98	3	731.41	48.53	43.03	3
WELLQQVDTSTR					738.37	28.38	55.45	2
ILDVNVK	400.76	16.72	26.94	2				
ATVLLADINDFSTVNDVYK	700.05	52.31	51.37	3	1049.58	46.51	54.52	2
GKFPDATETDLQELVAK	621.35	36.31	46.29	3				
VPNVVVTR	442.29	14.12	22.75	2				
VNTIPGFDGVVK	623.36	31.63	28.35	2	623.35	24.19	33.09	2
GLVALITGGASGLGLA(+1.00)TAER					610.03	49.44	23.6	3
EPITVSSDQIAK					644.33	13.30	62.17	2
LQTVILDVTK	565.36	29.42	42.54	2	565.38	22.03	44.11	2
EIGNIISDAMK	595.82	33.98	50.7	2	595.84	26.82	44.93	2
WALSQSNPSALR	665.37	34.62	24.71	2				
HGIGR					539.32	14.80	21.39	1
EYQDLLNVK	561.31	26.80	46.5	2	561.33	19.84	41.68	2
D(+27.99)SLLGEPGLGFK	630.84	41.12	26.37	2				

IFSYDPENPPGSEVLQIQNILAEEPK	976.53	61.61	57.84	3	976.52	56.11	53.78	3
FSVNLDVK	461.27	26.32	26.14	2	461.28	19.89	22.23	2
GIYLHPELFSIDN(+.98)GLLTPTMK	787.42	56.59	28.8	3	787.43	51.49	34.06	3
ILVDYDEK					497.77	13.69	37.56	2
VISGVLQLGNIVFK					743.95	48.07	69.91	2
TTPSYVAFTDTER	744.37	25.34	47.75	2	744.37	18.53	56.97	2
ILSISADIETIGEILK					858.02	59.59	62.03	2
DFLIPIGK	451.79	40.71	25.32	2				
ELHLQGFVVYR	454.26	33.16	51.63	3	454.27	26.33	47.09	3
LGEHNIDVLEGNE(+37.96)QFINAAK	563.04	36.37	44.93	4				
EITALAPSTMK	581.32	21.24	48.56	2	581.34	15.46	44.34	2
GN(+.98)DVLVIEC(+57.02)NLR					701.86	30.68	28.85	2
IANDSSINHEYLPILGLAEFR	791.44	53.55	46.33	3	791.43	48.24	48.83	3
EVAFWNELLSR					682.34	45.14	57.7	2
KLDSLTTSFGFPVGAATLVDEVGVDVAK	946.18	61.75	44.42	3	946.19	56.12	57.78	3
LGTLPFR	402.25	24.40	25.2	2	402.24	17.54	29.59	2
TVLQNYLPR	552.33	29.44	43.86	2	552.34	21.47	38.34	2
FSTWTN(+.98)SEFR					638.30	22.11	42.61	2
IFINNEWHSSVSGK	539.96	22.02	49.27	3	539.96	15.73	60.18	3
FDVSSYPTLK	578.82	29.51	44.29	2				
GFGHIGIAVPDVHGAC(+57.02)K					434.49	18.69	51.01	4
VKYETELAMR					413.90	12.51	37	3
LQPFLEVTK	537.83	28.78	22.56	2				
GLLVVSSEDFAR	646.86	34.93	51.55	2	646.84	27.81	52.3	2
SLNNQFASFIDK					692.37	29.20	62.66	2
IIGPGLVLSNPDRPC(+57.02)HQIDLFK					623.10	35.18	30.66	4
IASTILTSPDLR	643.89	29.59	51.5	2	643.86	22.23	51.36	2
SQLQEAPLEWK					664.85	21.77	43.86	2
AGPWTPEAAVEHPEAVR					606.32	18.44	39.81	3
GHEVTVLISSASTIPNSSKPSTMK					824.44	18.87	61.85	3
GLDLQGFLN(+.98)DLEK	731.89	49.71	27.92	2				
AVFWVEFVM(+15.99)R					650.34	44.04	45.42	2
LQLETEIEALKEELLFM(+15.99)K					731.75	56.29	21.89	3
LGEHNIDVLEGNEQFINAAK(+27.99)	747.07	36.98	49.58	3	747.06	32.97	51.76	3
PLTPDIYR	487.78	20.93	29.99	2				
ITALDEFATK	554.82	27.58	36.58	2				

ASSTSPVGISEWLDQK					852.94	33.15	64.91	2
LHIIEVGTPPTGNQPFPK	649.04	32.26	23.87	3	649.02	25.29	57.31	3
EWPSDIDLR					565.80	26.06	44.55	2
NMASLGGHIVSR	414.56	15.03	41.97	3				
VDIAA					488.31	69.85	22.27	1
IYQIYEGTAQIQR					791.93	19.52	68.15	2
LYQVEYAFK	580.82	28.97	37.12	2				
LGIYTVLFER	605.85	47.82	40.64	2				
QGSLYSLFPDHHVEK	439.99	24.59	46.95	4	439.99	18.06	65.72	4
TVVVKPAEQTPLTALHMGSLIK					778.47	30.67	59.46	3
PIVIGLINMPPPFK					768.48	51.02	47.79	2
ISLVLGGDHSLAIGSISGH	611.68	42.01	49.19	3	611.68	35.61	44.82	3
LLIEHQGISFLLAEMAMK					682.03	52.78	61.08	3
ALQAAYGTSAPSMTSAALR					933.98	21.82	63.04	2
HLVHELR	452.27	12.19	22.99	2				
IMGTS(+27.99)PLQIDR	629.85	26.93	26.56	2				
THLGLPVFNTVK	442.60	29.68	34.01	3				
LAAEDVIFIGPDTHAIQAMGDK	771.40	45.73	53.5	3	771.41	39.27	49.72	3
EEIFGPVLVVLE(+21.98)TDTLDEAIK	784.77	66.72	32.23	3				
LLDLTEDGLKEEFNLVR	668.72	50.72	36.82	3	668.71	44.84	54.45	3
WEYVPLGPFLGK					703.37	46.96	47.01	2
AHLMSQPLAY					565.83	17.88	28.57	2
CCM(sub T)ESLVNR	527.72	18.77	27.07	2	527.72	14.29	29.74	2
LTFDSSFSPNTGK	700.86	28.17	60.75	2	700.83	20.64	69.08	2
VIGNQSLVNELAYTAR					874.50	31.09	69.21	2
TWNDPSVQQDIK					715.86	15.07	50.35	2
NVVFSEDEMK					599.31	15.46	38.36	2
NDLSPTTVMSEGAQNIVAAMK	726.38	54.76	42.58	3				
TFVQEDIYAEFVER	582.64	47.75	65.33	3	873.44	41.38	73.15	2
LNDFASAVR	496.77	17.61	38.38	2				
C(+39.99)FYNSDGDLLIVPQK					876.43	52.63	25.8	2
ALEDMFDALEGK	669.83	51.22	66.97	2	669.81	45.54	67.13	2
GYFIQPTVFGDVQDGM(+15.99)TIAK	735.05	47.08	47.28	3	1102.10	40.88	28.79	2
TFEESFQK					508.24	12.57	42.56	2
YTETGEGPISHLAATTLQR	682.37	30.10	26.05	3	682.35	23.14	54.49	3
DRLDM(+15.99)PYLDAVVHEIQR	522.29	41.16	41.88	4				

N(+.98)SNVGLIQLNRPK	485.29	24.89	33.35	3	727.40	17.28	42.89	2
STPAITLENPDIK					699.88	20.20	59.4	2
SSWWAHVEMGPPDPILGVTEAFK					852.11	54.34	43.61	3
LAILSLTTGGTASMFSK					849.46	43.86	76.45	2
DPSGFSPEVQK					595.81	13.03	64.24	2
IIGELHPDDR	582.82	28.59	43.01	2				
SYLNMNAIMDAVR					749.37	41.85	54.18	2
PGFFFEPTVFTDVQDHMF					1081.04	61.84	21.99	2
ASAGR	461.28	21.19	22.75	1				
KGDILTLLNSTNK	472.95	30.47	23.39	3				
GGIVGM(+15.99)TLPIAR	600.86	27.95	52	2	600.87	20.59	47.91	2
DFTPT(+27.99)DMAEFAAR	750.35	44.46	30.96	2				
FIDLLPSNLLHEATQDTVFR					777.09	54.65	44.03	3
LPPGPTPLPIVGN	636.38	44.72	29.95	2	636.39	38.09	41.21	2
QQPEVLYNQIFINNEWHDAVSK					891.47	40.05	44.92	3
SSPTPGVGALGAALAAAPSDPVPADLR	820.14	51.82	43.91	3				
ILTGLNYEAPK	609.86	24.81	45.38	2	609.87	18.24	46.08	2
SLPDLGLR	435.76	27.75	26.24	2	435.76	20.75	23.91	2
DFLGGLAFR	498.28	45.64	39.03	2	498.28	38.93	36.99	2
KVESLQEEIAFLK	511.97	35.48	53.48	3				
ELISN(+.98)ASDALDK					638.81	18.94	33.57	2
FFESFGH(sub D)LSTADAVMNNPK					704.65	44.03	32.09	3
KVETDHIVAAVGLEPNVELAK	558.83	32.95	26.47	4				
SPPIVDTAQGR					570.81	12.17	39	2
TLSDPELFNEWTGNVK					925.48	39.15	47.23	2
GITVVELAGLAPVPF	741.95	66.88	25.45	2	741.95	62.99	35.96	2
IQGSTIPINQAR	649.38	16.07	34.34	2	649.36	12.64	36.56	2
SQVTNYMGIEWMR					807.88	35.77	71.36	2
SVTGEIVLITGAGHGIGR	579.68	36.53	43.3	3	869.01	30.03	65.04	2
LLDVAPLSLGLETAGGVMTALIK					761.46	63.82	59.03	3
NAQIAQSPVLLLGGAASTLLQNR					779.14	55.74	85.73	3
GAGTDEGC(+57.02)LIEILASR	831.42	46.99	32.58	2	831.42	40.78	36.82	2
DAFLGSFLYEY	662.83	66.37	39.68	2				
TRPPVAAAAVGLAQR	493.30	18.42	51.19	3	739.45	13.44	73.23	2
VDVAVNC(+58.01)AGIAVASK	737.90	27.63	42.01	2				
FSGDVVLTAR	532.80	22.17	49.48	2	532.82	16.18	60.56	2

FLTPLFTTK					534.34	30.26	27.23	2
LATNAAVTVLR	564.85	21.69	48.75	2				
VAE(+21.98)QTPLTALYVANLIK	622.70	55.62	25.63	3				
LVNHFVEEFK	421.24	21.76	40.62	3				
LDNIIEIHK	547.83	18.70	43.75	2				
LHTVYQSVELPETHQM(+15.99)LR	550.05	23.26	34.48	4				
DLAIQLGMLDPAEK	757.40	50.77	52.79	2				
VNLAELFK	467.29	48.95	26.02	2	467.28	32.79	34.4	2
GGVVTSNPLGF	524.29	42.04	34.29	2				
SLYYYIQQDTK	711.37	28.76	39.4	2				
LSIPEELS(sub A)PVATDK					749.90	29.62	28.83	2
GDVTAQIALQPALK	712.92	31.61	49.91	2	712.92	24.06	62.3	2
EKDILILPLDLTDR	552.01	48.63	37.19	3	552.02	45.46	44.44	3
YGDVLQIR	482.28	22.61	43.91	2	482.26	16.85	46.18	2
SMAASGNLGHTPFIDEL	880.43	43.36	35.52	2				
LSFSYGR	415.22	19.29	31.55	2	415.23	14.47	34.72	2
SHGVLGLYR	501.29	15.86	32.94	2				
VAT(-18.01)VSLPR	412.77	16.11	25.95	2	412.76	12.80	35.25	2
GFSLEELR					475.77	23.53	27.57	2
PQNDLLGHPK					559.84	19.01	40.02	2
DRPFFPGLVK	588.35	31.04	26.38	2				
ASYVAWGHSTVVNPWGEVLAK					757.75	38.57	33.53	3
KYVYIAELLAHK					483.31	22.12	53.2	3
AAVLWELNKPFSIEEVEVAPPK					822.80	46.40	66.13	3
IALYETPTGWK					639.82	24.98	46.09	2
ALDLFSDNAPPPELLEIINEDVAK	875.14	66.17	59.7	3	875.15	62.73	55.96	3
EIEDIVEDITADYIR					897.46	57.50	65.99	2
QQLIPGVPFLLQALVR					896.58	62.20	27.06	2
TEDELLEITL(sub Q)K					652.34	34.34	31.96	2
GYSFTTTAER	566.78	15.44	61.8	2	566.78	12.71	53.22	2
TLKPTLFPTVPR					685.39	20.86	50.31	2
VLNTNIDGR	501.29	13.33	34	2				
NWEWGFK					483.74	27.16	32.92	2
VIVLTAAAQGIGR	634.90	30.50	57.95	2				
IHVYTFVQK	567.82	17.98	28.89	2				
LALFNPDVSWDR					716.88	39.51	48.13	2

ASSVVVSGTPIR	586.85	16.80	46.76	2				
WAGGGFLSTVGDLLK					760.91	54.59	53.39	2
VPAIYGVDT(+27.99)R	559.80	24.63	24.83	2				
NDFQLIGIQDGYLSLLQDSGEVR	860.80	63.85	50.55	3				
MIALSIDSVEDHLAWSK	639.01	48.15	27.24	3	639.00	42.21	48.09	3
RTAVDSGIALLTNFQVTK					645.36	40.06	51.47	3
TTYEIFQR	529.28	22.25	52.77	2				
GFGFPQAGLITEAC(+57.02)ITEVAAK	727.39	54.40	26.66	3				
GFGGAMTDAAALNILALSPAAR					696.71	53.52	30.62	3
EATWVVDVK					523.80	19.36	43.74	2
LLVVYPWTQ(+.98)R					638.35	35.89	21.37	2
FALDGFFSSLR	630.34	55.73	66.42	2	630.32	49.70	62.35	2
FAALSELHC(+57.02)DK	645.82	23.17	25.83	2	645.81	16.91	28.5	2
Q(-17.03)GAETVQELLEVAK	749.41	57.17	27.27	2	749.40	52.03	29.97	2
DSIINYFR	514.28	38.43	32.95	2				
YLDFVFAVK	551.31	47.11	32.41	2				
LLEVIPSR	463.80	25.18	33.06	2	463.81	18.31	32.02	2
VYGAVMNINR					568.83	14.75	37.2	2
EEVPGFIPGLAILQVGNR	637.04	63.70	61.77	3				
VTALYEGFTVQNEANK	595.32	31.35	41.24	3	892.47	24.21	69.94	2
LGELPSWILMR					657.87	46.55	47.3	2
TSPLPPGPSPEIIIFK	846.99	46.94	31.98	2	846.99	41.06	43.57	2
IDNQC(+57.02)PSHLAIQEN(+.98)ANTLAR					756.05	17.08	34.56	3
VAPEEHPVLLT(+27.99)EAPLNPK	661.38	31.19	31.09	3				
FIGPSPEVVR	550.82	22.54	31	2				
SVVEFLQGYIGIPHGGFPEPLR					804.77	54.17	70.82	3
IITHPNFNGNTLDNDIMLIK(+28.03)LSSPATLNSR					835.22	43.78	36.16	4
FIPVLGFGTFAPR					711.42	48.62	39.69	2
VLEGM(+15.99)DVVR	517.29	14.06	35.29	2				
LLDVMEDGLK	566.82	34.21	35.49	2				
FFESFGDLS(+27.99)TADAVMNNPK	706.68	50.39	36.41	3				
VLIGGDETPEGQR					685.85	12.85	58.83	2
GNSLFFR	420.73	23.60	32.53	2				
VAEQTPLTALYVAN(+.98)LIK					923.04	49.49	51.26	2
VTTVGGTSFQNPFR	755.90	33.29	31.02	2				
LGPALATGNVVVM(+15.99)K	693.42	26.59	60.37	2	693.39	18.41	53.71	2

LFPDKESMLDAAFTLAAEISSK					795.43	61.72	58.2	3
TLSDYNIQK	541.30	14.75	35.21	2	541.31	12.43	42.58	2
TANVLTQTC(+57.02)GLQTGDR	867.94	21.77	46.5	2	867.95	15.47	51.37	2
DIVHSGLAYTM(+15.99)ER	503.26	24.66	40.42	3				
SELSGNFEQVILGMM(+31.99)TPTVLYDVQELR					1034.52	57.51	36.31	3
FHYGFNSNYLK	463.91	25.15	48.48	3	695.33	17.77	64.12	2
TANDAGYFDNEM(+15.99)APVEVK					993.96	20.62	51.8	2
EGLEYIPLR	545.31	32.92	37.04	2				
SPEEGAETPVYLALLPSDAEGPHGEFISEK	1057.22	50.21	36.2	3	1057.23	44.20	61.52	3
AGVSL(sub V)YGIIK					510.84	26.29	25.34	2
YGTTLEHFAK	583.81	14.24	49.06	2				
IEDVTPIPSDSTR					715.37	15.35	49.87	2
STFVLDEFK	543.29	35.11	38.69	2	543.31	28.12	36.58	2
AQGLVTHAIYQQAQ					764.41	14.90	54.33	2
LALQQDLTSM(+15.99)APGLVIQAVR	714.08	50.52	26.69	3				
GQLTTDQVFPYPSVLNEDQTQFLK	923.49	55.54	45.18	3				
WLPAGDALLQMITIHLPSPVTAQK					867.51	61.51	31.51	3
GDGPVQGTIHFEAK					485.92	13.23	60.21	3
YNEDLELEDAIHTAILTLK	734.40	60.94	29.1	3				
IGDPLLEDTR					564.82	18.13	52.72	2
VLLFGMGK					432.75	25.72	30.64	2
LGEHNIDVLEGN					655.32	18.68	34.38	2
VDILLGEVLPLLQK	775.50	65.85	61.53	2				
VGYTPDWIFLLR					740.42	55.17	37.6	2
TVDN(+.98)FVALATGEK	683.36	41.16	31.91	2	683.33	33.68	38.18	2
DILILPLDLTDR	698.93	60.79	42.8	2	698.91	55.54	34.9	2
TGIEQGSNAGYLSESQTFGELAMTK	873.76	44.38	38.06	3				
GPSWDPFR					481.26	25.05	50.1	2
ALSPDMLATDLAYYLVR					956.52	61.81	54.57	2
EISLDDFK					483.75	22.76	36.35	2
EIGYPVMIK					525.30	21.89	33.23	2
LDFPTMK					426.24	19.56	32.48	2
DLGEELEALK					558.82	32.38	46.04	2
LLRDYQELMNTK					508.62	18.07	44.97	3
SLTIDYIR	490.78	26.66	31.38	2	490.80	20.35	37.45	2
EIGAIAQVHAEN(+.98)GDLVAEGAK					698.37	21.65	30.89	3

ALQFADVIVLLGAR					743.45	57.64	73.25	2
DSINPYVYLPFGTGPR					898.47	47.95	47.84	2
EVSQPNWTPPPEVTLVLTK					1068.12	44.91	27.7	2
AFHITNDEPIPFWTFLSR					731.04	54.20	51.43	3
LAAVDATVNQVLASR	764.44	38.18	70.51	2	764.44	31.05	75.04	2
AIWNVINWENVTAR					843.45	46.89	61.12	2
LLDEVFFSEK	613.83	40.92	29.42	2				
IAVIGQSLFGQEVYC(+57.02)R	614.00	45.66	23.99	3	920.51	38.37	57.82	2
EVGEALC(+57.02)TDPLVSK					759.38	21.44	51.87	2
ASFHTPF					403.71	17.24	22.46	2
IDILVN(+.98)N(+.98)GGVSQR					693.87	21.90	37.32	2
LDSLTTSFGFPVGAATLVDEVGVDVAK	903.49	65.70	28.95	3				
HYTIAALLSPYSYSTTALVSSPK					824.10	45.77	63.44	3
C(+57.02)LDAFPNLK	539.28	28.49	37.35	2	539.29	21.62	34.01	2
NIQVDSPYEISR	710.88	25.79	61.2	2				
GLSAGIFTNDIDK	675.86	34.02	43.44	2				
DPSGGPVSLDFVK	659.35	37.43	46.26	2				
QTIGPVAAFR	530.31	23.65	34.77	2				
VVNPLFEK	473.29	21.85	22.44	2				
LKDKEVAFWNELLSR					616.68	33.49	65.63	3
LWGDPSVFRPER					486.95	22.61	26.24	3
VLDASWYSPGTR					676.35	21.17	62.79	2
QIPLNEQFLR	629.37	32.10	35.11	2				
MDSTANEVEAVK					647.29	12.16	63.77	2
LIFGK	577.37	16.35	27.2	1				
TELFIFFTSLLQK					793.95	62.50	40.85	2
Q(-17.03)EYDESGPSIVHR					750.35	14.62	46.7	2
TLNDELEIIEGMK					752.89	42.69	63	2
SEIDLLNIR	536.82	36.78	49.89	2	536.82	30.52	42.44	2
LPIFIADAFTTK	668.89	50.50	38.75	2				
GAAVDVDLER					522.78	13.51	52.14	2
LFGGDFAHQASVAR	492.60	23.22	38.56	3	492.61	16.53	40.17	3
ITAHLVHELR	594.87	12.10	58.88	2	594.84	11.89	59.45	2
AQYPIADLVK	559.32	30.82	24.18	2				
HAHLDIEAFTMDR	519.27	26.65	33.73	3				
PSDHGVFVALVTPAPYQLC(+57.02)AVPR					832.11	41.76	34.81	3

GLLAR					529.36	24.61	23.31	1
PSDHGVFVALVTPAPY	835.45	46.02	23.76	2				
EPGSGFSFEFTEQQK					859.41	28.47	44.34	2
AFQFVEAHGEVC(+57.02)PANWTPESPTIKPHPTASR					693.16	26.57	30.61	5
LGPN(+.98)YLQIPVNC(+57.02)PYR	602.32	43.10	27.22	3	902.99	36.26	27.13	2
LTYSTEVFLDR	672.35	34.07	44.56	2				
YGFLLLMK					492.82	39.38	35.85	2
AFVVLAPHFL	557.33	49.60	22.87	2				
NHVLSLSFPIR	428.26	32.71	26.36	3	641.88	25.68	45.9	2
Q(-17.03)AVLTQPSSVSGSLGQR					849.47	26.73	34.14	2
MEDALDSYVIR					656.31	26.52	62.33	2
TILYAFLDK					542.34	34.04	40.02	2
ALDLAENEM(+15.99)PGLMHM(+15.99)R	620.63	24.71	22.98	3				
AFVVLAPH					427.26	19.65	31.6	2
AHGAWAVVTGATSGIGK					791.95	19.30	75.26	2
IPLSQEEITLR	649.88	29.36	36.08	2				
ALIAGGGAPEIELALR	775.97	44.46	37.8	2				
VEIATLTR	451.77	18.18	27.21	2				
LIVGLMRPPAYADAK					807.98	24.35	51.96	2
AFAM(+15.99)TNQILVEK	690.88	23.41	47.23	2	690.86	16.81	46.7	2
ITDVEHITGLSFYQER	636.68	37.18	30.86	3				
ASAFALQEQPVVNAVIDDATK	729.73	51.37	36.94	3				
LSYVDFLVYDVLDM(+15.99)HR	667.68	62.50	56.22	3	667.65	57.27	45.48	3
YVISAVPPVLGM(+15.99)K	695.41	37.04	29.87	2	695.38	29.61	43.38	2
AMAFQLDFFAK					644.82	45.71	48.08	2
AFNIR					620.34	37.74	27.12	1
FLSDVYPDGFK	644.34	35.98	54.84	2	644.31	29.20	50.2	2
Q(-17.03)AQYLGVSR	502.78	27.87	37.01	2				
SLEEIYLFSLPIK	776.44	59.18	59.31	2	776.45	54.33	54.96	2
LVDLDMVLK	523.32	41.22	27.6	2	523.31	35.44	34.7	2
NFLASQVPFPSR	681.87	36.93	63.24	2	681.86	29.42	55.99	2
FC(+57.02)ALNWEDQSAVVLATVDKEK					808.41	43.71	52.02	3
TGEYPVPLIK	558.83	28.45	53.07	2	558.86	21.64	58.57	2
GTIGK					475.33	20.10	25.2	1
FSYGNVIER	542.79	22.65	44.12	2	542.81	16.72	55.59	2
FATVEVTDKPVDEALR					597.36	20.83	55.77	3

VLVIGLGNSGC(+57.02)DIASELSHIAEK	794.78	53.41	25.02	3	794.76	47.70	37.19	3
THVGMSIQTFR					638.81	13.64	53.27	2
TIEEYAIC(+57.02)PDLHVDLGVLGK	748.08	51.01	41.35	3	748.07	45.07	32.12	3
FEELNM(+15.99)DLFR	665.33	36.27	37.35	2				
VFQEFIK	455.77	23.92	29.67	2	455.76	17.95	35.34	2
LPVVLGHEGAGIVESI(+14.02)GEGVTTVRPGDK	700.91	41.72	40.55	4				
NVQALEIELQSQLALK					599.72	45.43	69.77	3
LSSDVLTLLIK	601.39	51.60	26.58	2				
NIIVGFAR	445.28	25.97	25.39	2	445.27	18.61	26.97	2
FVFITGC(+57.02)DSGFGNQLAR	630.33	45.09	46.34	3	944.98	37.85	51.71	2
IALYETPTGWK(+14.96)	647.34	26.29	35.85	2				
LGSFLYEYSR	617.82	32.09	30.72	2				
VIPELN(+.98)GK					435.76	13.50	25.27	2
M(+15.99)GLVDQLVEPLGPGVKPPEER	759.43	41.01	38.86	3				
KWNQFYSEVLGRPTTLSETMGK					643.80	31.76	39.45	4
YRPGTVALR					516.82	11.91	26.89	2
ALQLGLGC(+57.02)QK					544.32	15.26	25.8	2
IILDLISESPIK	670.91	49.40	29.72	2	670.92	43.37	49.92	2
VLYPN(+.98)DNFFEGK					722.35	32.60	35.32	2
HLGGEVSC(+57.02)LVAGTK					714.38	14.38	49.56	2
AFEYIITAK	528.31	28.22	43.61	2				
MSVQPTVSLGGFEITPPVVLR					743.09	54.16	47.42	3
GQVYILGR	453.27	19.29	40.94	2	453.25	14.82	45.03	2
MLVQPNEIC(+57.02)VIQR					800.44	27.83	35.84	2
LVSGIAHPGPA	509.79	15.15	27.5	2				
MVGIPAAFDMMLTGR					805.40	54.42	53.3	2
AVSNVIASLTFGC(+57.02)R					747.88	37.38	43.26	2
GITWKEETLMEYLENPK					694.35	41.03	38.25	3
GHEVTVLISSASTIPNSSK	643.03	27.27	37.28	3				
PGGLLLGDEAPNFEANTTIGR	714.72	44.98	55.85	3	714.71	38.44	64.46	3
DYQELMNTK					571.29	15.08	45.81	2
LQSGLVWTNC(+57.02)WLIR					873.50	47.25	27.44	2
IASVQTNEVGLK	629.87	17.57	41.25	2	629.86	13.15	42.92	2
IITHPNFNGNTLDNDIMLIK(+14.02)					766.43	36.96	37.72	3
PGMLDFK	404.22	23.50	28.61	2	404.22	17.69	25.79	2
FDPVIILK	472.81	37.38	36.11	2	472.82	31.02	43.5	2

VAVVNQIAR	485.31	14.65	34.4	2				
IWHHSFYNELR					501.27	13.29	47.94	3
YLQTLTTIAAEK	676.39	28.16	48.58	2				
YGIQM(+15.99)PSFSK	587.30	21.63	34.41	2				
ELIIGDR					408.24	13.70	26.26	2
LGFHLPLEVAYQR	514.97	41.68	30.92	3				
SELDMLDIR					546.29	29.24	53.89	2
LGEPIPISK	477.30	20.15	45.18	2	477.29	14.78	39.33	2
AVEHLDDLPGALSELSDLHAH	560.55	44.89	34.55	4				
ASFPQGPIGGVNR	650.36	22.67	46.71	2	650.33	16.13	47.93	2
LDYHISVQNMMR					502.94	24.59	51.78	3
EGNAIFTFPNTPVK	767.92	39.22	30.49	2	767.92	32.54	44.9	2
NTLLIAGLQAR	585.33	31.57	24.72	2				
LYVTTSLYSAWDK					773.92	35.14	59.9	2
EKLDSVIEFSIPDSLLIR					692.07	52.56	32.16	3
IDPSIMGGMIVR	644.85	40.27	36	2	644.84	33.46	50.89	2
LFEENDINLTHIESR	610.66	33.96	37.79	3				
VLELVSITANK	593.86	32.03	47.81	2				
WLSMNVLM(+15.99)LDEK					747.88	41.71	46.49	2
NVEILETPISK	621.87	29.41	33.46	2				
EATNPPVIQEEKPK					527.30	11.91	56.1	3
AYAGDIANQLASDAVQIFGGN(+.98)GFNTEYPVEK	815.92	66.53	35.46	4	1087.56	62.91	22.78	3
DYGDLSFADNLDDSPFQIVK	753.70	61.86	61.68	3	1130.08	56.05	70.27	2
YGLLVGGAAAHR	592.84	16.65	54.67	2				
NILGGTVFR	488.79	29.65	28.42	2	488.80	21.82	34.13	2
IDDPTDSKPEDWDKPEHIPDPDAK					690.84	16.99	47.71	4
AVEHLDDLPGALSELS(+27.99)DLHAHK	479.86	41.63	39.67	5				
LSPDSMAQLAFQMAFLR					963.52	61.74	30.07	2
IGLFGGAGVGK	488.29	26.91	55.51	2	488.31	20.15	43.9	2
VALVTASTDGIGFAIAR	831.48	51.34	45.83	2	831.49	38.50	76.62	2
GVMLAVDAVIAELK	714.92	61.07	52.62	2	714.91	56.16	65.47	2
EVAWNLTSIDLVR					758.42	44.35	56.59	2
NFEEVAFDEK					614.29	19.09	43.71	2
AQFGQPE(+37.96)ILIGTIPGAGGTQR	538.04	44.98	33.33	4				
VGLVAVDK	400.76	14.98	27.77	2				
GNDVLVIECNLR					672.83	36.16	48.66	2

GPLLVQDVVFTD(+14.02)E(+14.02)M(+15.99)AHFDR	745.04	46.03	28.39	3				
AEFVEVTK	461.74	14.86	22.98	2	461.75	12.60	38.25	2
NC(+57.02)MSEFMGLIK					665.30	39.29	45.31	2
SYSTTALVSSPK	620.84	16.89	36.33	2				
SVGLR					531.35	37.85	21.54	1
MPHQLFIGGTFVDAEGGK					635.32	28.82	71.7	3
VC(+57.02)NPIITK	472.78	13.78	28.78	2				
GLFIIDDK	460.77	33.11	25.38	2	460.77	26.20	26.9	2
L(+27.99)LGNVLVVVLAR					647.40	65.28	45.48	2
LGDLYEEEMR					627.79	17.59	51.38	2
VIASAFAQIPQK	636.88	27.21	67.65	2	636.86	19.68	69.59	2
GIAAR					487.32	69.78	24.72	1
VIFVQGGGC(+57.02)GQFSAVPLNLIGLK					792.10	55.34	36.35	3
YYAGWADK					487.23	13.12	45.56	2
ISFNPDPK	459.25	16.67	28.69	2				
PDWTFLHC(+57.02)LPR					721.37	36.67	40.29	2
GSFK(+28.03)YAWVLDK					447.94	23.77	26.21	3
VEAAVGEVLFQEAHEVILK	694.39	51.83	25.14	3				
AIAELGIYPAVDPLDSTSR	663.37	49.48	58.76	3	994.54	44.51	53.75	2
LVVLGSGGVGK	493.32	19.75	36.18	2	493.33	14.59	38.12	2
NVSTGDVNVE(+21.98)MNAAPGVDLTQLLNNMR					965.49	56.10	48.06	3
EGIPALDNFLDK	666.35	47.14	45.84	2				
LLLPWLEAR					555.87	44.53	30.95	2
IGEVFELEEVNDAFLHVTQR	782.43	55.55	33.16	3				
VEAVNMAEGIIHDTETK					619.66	29.41	53.06	3
VLVEPDAASGVAVMK	743.41	30.47	50.63	2	743.39	23.11	58.17	2
IPVPILPGLPMNNHGNYIVR					738.74	41.41	57.72	3
STALQLIQR					515.34	16.80	33.1	2
TEQGPQVDETQFK					753.86	12.77	70.37	2
HLIIGVSSDR	548.82	14.70	24	2				
YILSDNSPAPEFPLSYLTSENR	838.44	56.64	32.63	3				
TLADAEGDVFR					597.32	19.06	53.32	2
IGLLGGNATR	486.30	18.43	36.37	2				
QIIQANPLLEAFGNAK	864.00	52.02	31.49	2	863.99	45.23	58.22	2
Q(-17.03)VPGGYTVINK	579.83	31.15	34.2	2	579.87	23.38	38.14	2
EGGLLTLAGAR	529.32	28.55	32.59	2	529.35	21.92	42.55	2

LVPGPVFGSK					500.80	16.79	27.08	2
Q(-17.03)VLIDQSEEFSGR					745.87	33.52	47.08	2
PFVELDTSLPAGR	701.39	36.51	36.66	2	701.37	29.78	46.67	2
SDLEMQIESLTEELAYLK					1056.54	62.53	57.99	2
LVAYYTLINAK					634.87	28.29	43.63	2
Q(-17.03)GSLYSLFPDHHVEK	580.64	35.29	32.1	3	580.65	28.44	33.73	3
YYVGDTTDVLFEK	775.40	38.09	38.96	2	775.38	31.46	63.03	2
LTPNVTDIVSIAR	699.91	41.01	33.66	2				
ILATPPEEDAPSVDITNIR	684.39	39.81	48.12	3	684.33	33.31	53.95	3
LVFLGLDNAGK	573.85	44.02	28.04	2				
ANLQIDQLNTDLNLER	624.01	41.67	54.27	3				
LLTIEFNPDYAAITQR	622.35	49.10	56.72	3	933.02	43.15	64.54	2
EFTEDSAIFEDGTVFK					917.93	40.66	69.27	2
IVNNK					587.35	13.08	23.82	1
VLDALDSIK	487.29	27.40	25.94	2				
QEYFVVAATLQDVIR	584.67	55.16	34.55	3				
IDILVNN(+.98)GGVSQR	693.39	28.02	46.72	2	693.38	20.39	51.53	2
KGQDPYNILAPK	448.60	18.96	38.56	3				
EPIPVLPTVHYNMGGIPTNYK					780.76	37.00	55.19	3
IQALLDKYNEEKPK					563.67	12.30	52.94	3
DALSDLALHFLNK	486.28	62.17	31.46	3				
TIFAYFSGSK					560.81	28.22	39.27	2
LKPGTMIEWGNNWAR					591.67	27.45	57.88	3
SGGFLSHWDQLTR	501.93	33.82	46.53	3	501.93	27.44	54.02	3
YVAVMPPHIGDHPLTGAYTVTLDGR					670.84	33.75	54.34	4
IGGIGTVPVGR	513.32	20.76	47.99	2	513.34	15.04	51.85	2
DGSIDLVINLPN(+.98)NNTK	864.46	45.33	38.93	2	864.45	38.25	40.64	2
QTQEYEALLNVK	718.40	30.59	52.65	2	718.38	23.65	57.29	2
VGQQVEVELLGK	649.88	28.85	47.58	2	649.87	21.96	46.47	2
ADFC(+57.02)IIHYAGK	432.24	25.47	26.05	3				
SIQADGLVWGSSK					674.34	22.27	29.02	2
FINTGFIK	470.28	26.19	26.47	2	470.29	19.38	30.09	2
EALMAHGFGNR	401.54	14.37	42.63	3				
GSIVNVGSVVGLK	614.88	36.19	27.86	2				
DATNVGDEGGFAPN					682.29	17.93	41.8	2
YLYLASK	429.25	17.62	37.31	2	429.26	13.80	31.89	2

LMSQIVSSITASLR					753.41	45.74	63.85	2
LASVAAGAFR	481.79	18.58	31.71	2				
FIVQHTNPFR	420.24	19.23	40.26	3				
ISGPR	529.33	23.69	26.12	1				
L(+42.01)LGNVLVVVLAR					654.41	65.55	44.87	2
LSYVDFLVYDVLDMHR	662.35	64.97	59.79	3	662.35	60.69	69.37	3
SFSTASAITPSVSR					705.86	15.78	58.61	2
FGNEVVPVTITVK	701.92	35.25	44.09	2	701.90	27.91	52.24	2
TYWDFSFPRPR					491.27	32.08	34.6	3
GLGTDED(+21.98)TIIDIIAHR	587.65	48.65	36.82	3				
LIEGVLDFK	517.31	37.51	24.97	2				
FSLFAGGMLR					549.82	37.17	39.46	2
TYFPHFDLSHGSAQ	536.27	31.45	33.96	3				
LLGPLGM(+15.99)K	422.76	18.57	23.78	2				
GDTVFFHPLLIHGSGR	585.00	32.09	55.94	3				
VEVFLDGGVR	545.81	27.39	48.55	2				
VSGTSASTPVFGGLLSLINEHR					748.08	49.52	60.67	3
AGMIFYR	429.23	22.33	25.52	2	429.24	16.44	40.28	2
GLSSLLYGSIPK					617.87	34.89	60.29	2
VM(+15.99)TIAPGLFGTPLLTTLPDK	701.07	58.00	31.64	3	701.07	52.62	45.31	3
LFPGYTHLQR					616.34	23.43	33.71	2
NITYLPAGQSVLLQLPQ					928.03	53.62	61.68	2
SADTLWGIQK					559.84	19.45	50.94	2
GSAPPGPVPEGLIR	673.89	28.04	33.14	2	673.88	21.22	59.32	2
VNPLGGAVALGHPLGC(+57.02)	766.42	39.97	28.12	2	766.42	32.98	42.18	2
GWLPYFGQALK					640.32	42.05	26.69	2
TLIGHVPDQR	568.32	13.09	53.36	2				
KLQDIINC(+57.02)NMVSVAQMTR					707.69	35.80	24.59	3
VTQSNFAVGYK	607.33	16.79	54.09	2	607.35	13.07	58.91	2
GIVISFAK					417.77	19.61	34.77	2
LNSLTVGPR	478.79	15.04	36.76	2	478.79	12.62	36.6	2
SVGIR					531.35	37.85	21.54	1
GALQAIDQIALFR					708.42	45.70	48.42	2
AAQKPDVLTTGGGNPVGD(+21.98)K	616.33	14.43	34.4	3				
SNHEPYFGYSGAFK	535.27	23.84	28.01	3				
A(+42.01)HQFPALTSEQK	699.87	21.55	38.71	2	699.87	15.80	47.41	2

TYFPHFDLSHGS(+27.99)AQVK	466.24	29.65	39.19	4				
FIPVLGFGTAEAK	675.39	42.79	29.69	2				
FYPEDVSEELIQDITQR	694.70	62.13	25.09	3				
A(+42.01)ESSKPILYSYFR					801.93	33.23	27.59	2
TGVLAAITAFAANK					674.36	42.14	70.53	2
VYNVTQHAVGIIVNK	552.33	25.89	54.04	3				
SQAHTLEDFQR					444.55	12.00	57.01	3
TPDFESTGLYGAMPR	821.39	37.13	75.26	2	821.39	30.41	77.05	2
DLT(-18.01)DYLMK					490.76	31.20	36.69	2
VNAGDQPGADLGPLITPQAK	654.69	34.70	64.41	3	981.53	27.40	65.96	2
SLVESVSFSLNK					655.34	28.63	28.5	2
SGILAAESIFNQLTNENLQSK	759.74	57.79	63.88	3	759.75	52.87	63.05	3
DATNVGDEGGFAPNILENK					980.98	31.58	70.73	2
IM(+15.99)DLLGDR	474.76	19.73	27.38	2	474.76	15.02	23.17	2
M(+15.99)LVGTVFQK	519.80	20.85	34	2	519.82	15.38	30.45	2
FDLGQDVIDFTGH	732.35	51.64	41.14	2				
QDVSPFNVVAWHGNYTPYK					741.39	35.08	55.4	3
LLLLGAGESGK	529.33	25.89	22.85	2				
HSQSFNVEELTNILDGGAQNTALR	872.13	51.56	58.58	3				
GVVDSEDLPLNISR	757.41	36.67	65.63	2	757.38	29.35	41.71	2
GLNSESITEETLKK					774.92	13.12	57.24	2
PFFGYNFGR					552.79	30.02	40.94	2
IITHPNFNGNTLDNDIM(+15.99)LIK					767.06	36.78	33.2	3
ALVSAQWVAEALR					707.40	41.80	55.87	2
LQQVGTVSELWIYPIK					937.55	46.00	65	2
MAENLGFLGPLK	645.36	40.67	44.88	2	645.35	34.13	61.23	2
FETFPVSLTK	584.83	34.89	36.21	2	584.86	27.85	52.7	2
ALPQHLKPFETLLSQNK					655.38	24.92	62.82	3
EIIDLVLDR	543.33	43.72	47.78	2	543.33	37.21	44.24	2
N(+.98)FYTLTLPLGR	648.37	56.80	29.64	2	648.35	50.34	39.75	2
DHINLPGFSGENPLR	555.96	36.62	53.19	3	555.98	29.58	66.41	3
LVSGGNEATLGK	573.33	12.40	48.56	2				
ALGGLGSGLC(+57.02)PNR	636.34	23.16	26.41	2	636.30	16.34	34.29	2
KEPLFGISTGNLITGLAAGAQVYK					816.79	47.76	67.09	3
TYWDFSFPR					609.81	39.24	41.82	2
EVDIGIPDATGR					621.83	20.97	48.7	2

FHYGFNSN(+.98)YLK					695.84	20.58	39.74	2
FEELGIK					418.24	14.91	32.84	2
TSC(+114.04)LCPVFVNTGFTK					865.92	30.48	35.46	2
GEDILITGGR					515.79	15.08	43.97	2
TILEELVT(+27.99)R	551.32	38.01	22.97	2				
EGADLLM(+15.99)VKPGTPYLDIVR	701.73	44.78	33.92	3				
VAVVAGYGDVGK	567.82	18.95	61.17	2	567.85	13.93	66.57	2
LLLQVQHASK	568.86	13.76	37.37	2	568.85	12.19	39.38	2
ISSVQSIVPALEIAN(+.98)AHR	636.04	40.63	53.21	3	636.02	34.04	60.01	3
IPVPILPGLPMN(+.98)NHGNYIVR					739.09	45.86	46	3
EIDGGLETLR					551.81	16.65	45.98	2
EAGFPPGVVNIVPGYGPTAGAAISSHMDVDK					1018.53	45.74	50.16	3
ATNMTVSAIR	532.30	14.85	61.21	2				
VSLYNAVTVEDVQK	782.93	31.48	63.41	2	782.93	24.31	58.51	2
VFGFSLITNK					563.37	34.63	51.5	2
VEIEAIAVQGPLTTA	756.42	49.36	41.28	2	756.41	43.03	42.79	2
ILDIYHQEACGGC(+114.04)IISVGGQIPNNLAVPLYK					853.95	49.05	21.62	4
SIGVSN(+.98)FNHK	552.29	12.89	30.07	2	552.30	12.33	45.47	2
KVETSDEEINDLHQR					604.97	11.92	59.94	3
SLAM(+15.99)EMVLTGDR	669.83	27.20	47.57	2	669.83	20.76	45.52	2
VTNVGDGTTHSTALELFLYLNEVAGK	917.17	64.47	47.05	3	917.16	55.23	63.91	3
FVFSLVDAMN(+.98)GK	664.85	48.36	42.87	2	664.83	43.91	53.34	2
AISFVGSNQAGE(+21.98)YIFER	637.33	43.19	27.01	3				
TAVVTGANSGIGK	587.83	12.47	40.19	2				
GHDIVVLAPDASIYIK	571.01	38.56	32.08	3	571.03	31.79	52.71	3
LASQYGALVFVDESHATGFLGATGR	856.46	48.66	63.2	3	856.45	42.73	62.51	3
EFTPVLQADFQ(+.98)K	712.37	36.57	31.39	2				
ASPIR	543.32	42.10	23.4	1				
AVVPEMAK					422.75	12.31	22.44	2
Q(-17.03)AALVLDGLEAR	619.85	52.04	31.56	2	619.87	46.13	27.71	2
VALDFEQEMATAASSSSLEK	705.36	46.00	36.55	3				
SIFEIATELNR	646.87	43.09	41.55	2	646.85	36.60	51.55	2
ADIHLVELLYYVEELDPSLLANFPLLK					1043.29	65.58	48.78	3
LVRPPVQIYGIEGR	533.00	30.06	61.78	3	533.03	22.52	64.49	3
MAEDLILYGTK	627.33	32.53	46.65	2	627.33	25.63	55.61	2
DPNPMHIDATFN					686.30	26.65	42.9	2

LGGVQFDIDLPNK	708.40	40.60	39.59	2				
VAVLGASGGIGQPLSLLLK					897.10	51.63	77.43	2
NWPLYLSTK					561.35	26.83	39.65	2
IAQLEEVK					465.28	12.37	29.67	2
FLEDYFDGNLK	680.83	42.08	48.47	2	680.82	35.55	57.59	2
DNIQGITKPAIR	442.61	16.60	41.15	3	663.40	12.63	51.01	2
WLLAAAGVEFEEK	731.91	45.66	42.69	2	731.88	39.36	57.9	2
LGLDFPNLPYLIDGTHK	638.37	61.93	47.3	3	638.34	49.32	70.05	3
GLLEEDFQK					539.79	17.89	45.07	2
S(+42.01)SSAMPD(+21.98)VPAPLTNLQFK	656.34	56.89	40.68	3	983.99	51.40	28.7	2
IITHPN(+.98)FN(+.98)GNTLDNDIMLIK(+14.02)					767.07	44.73	44.49	3
LGEHNIDVLEGNEQFINAAK(+14.02)					742.38	33.48	45.38	3
DGPLNMILDDGGDLTNLIHTK	751.41	61.99	35.09	3	751.38	56.02	70.53	3
QAQYLGVSR	511.28	13.35	37.27	2	511.30	12.17	43.42	2
AAVTAFWGK(+27.99)	489.77	27.49	23.2	2				
DVAPQAPVHFLVIPK	544.33	39.18	30.77	3	544.36	32.49	39.12	3
ITPSYVAFTPEGER	783.90	30.17	53.91	2	783.91	23.13	57.59	2
N(+.98)FSDVHPEYGSR					470.23	14.25	28.1	3
LELLAHLLGEK	412.60	58.33	25.11	3	412.59	35.40	37.33	3
VVNVSSFR	454.26	15.97	38.09	2				
GGPVQVLEDQELK					706.37	22.82	58.47	2
SQIQEYVDYN(+.98)GGAGVQHIALK	764.40	33.87	42.76	3	764.40	26.48	35.5	3
LNLQEYQSK	561.80	16.00	34.44	2				
LLEFLGR	424.27	29.77	28.47	2	424.27	22.13	33.42	2
LFDQAFGLPR	582.33	46.85	44.6	2	582.37	32.65	55.31	2
FYEDLQHLLEITPK	582.66	49.90	26.37	3				
DAGMQLQSYR	584.79	18.66	58.47	2	584.82	14.04	55.21	2
ALELN(+15.99)MISLK	574.33	31.68	27.57	2				
ELGEYGLQAYTEVK	800.42	34.88	66.99	2	800.40	27.89	73.44	2
GLNSESITEETLK					710.86	16.63	70.75	2
LVILMDPFEDDLKK					559.34	40.96	41.1	3
GAEVHVVPWNHDFTK					579.33	16.18	83.99	3
NDLMEYAK					492.24	13.97	41.67	2
ISGLYSPYK	514.29	20.45	38.21	2				
FLTADGTINK	540.31	17.61	32.28	2				
VIGSGC(+57.02)NLDSAR	624.82	13.14	37.79	2				

LN(+.98)SLTVGPR	479.28	18.15	37.77	2	479.27	13.57	32.62	2
NVQFLVK	424.26	19.44	27	2				
SIYSEFLK	493.78	33.24	29.21	2	493.78	26.40	34.15	2
LYLNEVAGK	503.79	18.93	24.29	2				
LGEHNIDVLEGNEQ(+.98)FINAAK	738.06	37.79	38.22	3	738.04	33.24	38.77	3
VVFQPEHISFEELLK	605.68	46.93	27.99	3	605.69	41.10	45.58	3
VVAGVANALAHR	589.36	15.60	69	2	589.35	12.41	64.6	2
TYLAALETLDN(+.98)GKPY	835.42	44.79	25.14	2				
AGAGSATLSM(+15.99)AYAGAR	735.87	16.31	35.16	2				
SLQVANEPVLAFTQGSPER	681.71	40.30	57.16	3				
LQSDVAVPIPK	583.85	25.33	54.38	2	583.87	18.37	50.7	2
APAVTQHAPYFK	443.92	14.69	43.74	3				
TIPIPISKPPVFIGK					536.35	32.73	37.21	3
EGAIQVQGQSLFFR	790.43	39.32	49.74	2	790.43	32.49	53.78	2
ALASQLQDSLK	587.33	22.95	36.11	2				
LPPGPTPLPIIGNLMQLNLK					709.44	60.64	74.17	3
ASPLR	543.32	42.10	23.4	1				
TKPADEEM(+15.99)LFIYSHYK	497.76	24.78	47.42	4				
YFGDIISVGQR	627.84	35.20	42.18	2				
GSFSEQGINEFLR	742.37	38.11	54.58	2	742.37	31.24	69.01	2
VHPDPGTWDSFLEK					543.29	27.66	51.21	3
GIVFEDVR					467.76	17.48	40.96	2
FQSLGVAFYR	594.32	34.48	33.12	2				
GEVSR					547.35	17.77	27.07	1
AILESIAFR	510.31	33.97	38.71	2				
ALQYVFFAER	622.34	46.75	32.91	2	622.35	32.45	58.07	2
GPLNWYR					453.23	17.89	36.02	2
VAIIGAGISGLASIR					699.41	37.87	67.79	2
VAPEEHPVLLTEAPLNPK	652.05	29.11	55.7	3	652.00	21.72	66.4	3
RNEVWLVK					522.33	12.88	28.15	2
VMTIAPGLFGTPLL					715.41	62.21	42.74	2
APTGR					501.31	66.13	23.2	1
HGFDVALNYK	582.31	21.17	57.15	2	582.34	15.37	63.68	2
SIFN(+.98)GFSVTLK	607.33	45.39	26.54	2	607.35	38.67	34.08	2
DQGYSTALIGK	576.81	21.61	41.01	2				
ALVALGAVDTALYAVGGK	563.67	53.98	68.03	3				

QMSLLLR	430.76	25.37	25.4	2	430.75	18.76	32.74	2
GIYTGLSAGLLR	610.86	37.72	56.5	2				
GGEIQPVSVK					507.29	12.13	44.63	2
LDSVIEFSIPDSLLIR					909.02	57.60	50.97	2
VM(+15.99)VAEALDISR	610.33	26.72	31.64	2				
M(+15.99)TSENLLNALK	625.34	28.67	36.56	2	625.34	22.34	43.36	2
DFSSVFQFLR	623.33	61.74	45.5	2	623.32	55.62	56.47	2
MNFSPPGDK					496.74	12.87	30.68	2
KFPVFNPATEEK	469.60	20.89	51.23	3	703.87	15.22	55.06	2
EVAFWN(+15.00)ELLSR	689.86	36.68	25.25	2				
IVADKDYSVTANSK	504.28	12.15	39.37	3				
TETIRPASIFTK	455.27	21.10	23.03	3				
WSGPLSLQEVDERPQHPLQVK					611.61	24.70	67.34	4
EEIFGPVQQIMK	709.89	41.61	45.58	2	709.87	35.64	58.15	2
SVAFDHADPSIFTVLTAK	640.36	46.61	33.41	3	640.33	40.87	51.85	3
SLGQW(+15.99)LR	438.25	19.37	26.47	2				
STGSFVGELMYK	659.85	34.31	49.59	2	659.81	27.35	65.56	2
AQSELLGAADEATR					716.36	15.12	58.41	2
ALKPGEELFPK	410.25	19.29	37.83	3				
LN(+.98)DGHFIPVLGFGTFAPR	653.70	61.87	33.08	3	653.67	49.93	49.2	3
EDEDDKTVSDLAVVLFETATLR	822.77	66.09	33.68	3				
GVLFGLPGAFTPGC(+57.02)SK					804.42	42.30	33.44	2
VIMVTGDHPITAK	461.27	16.31	37.47	3				
IFTNLYGR	492.28	23.12	35.84	2				
ASGFDFSQVLALSGAGQQHGSVYWK					880.80	48.50	39.93	3
TITLEVEPSDTIENVK					894.49	28.63	52.79	2
LSNIFVIGK	495.81	32.27	31.2	2	495.83	25.39	45.27	2
SIVDYKPNLDLLEQQHQLIQEALIFDNK	831.97	59.02	29.48	4	831.94	54.16	36.9	4
M(+15.99)PEEMLAEK					547.28	12.19	36.55	2
GVFIVAAK	402.76	19.56	34.72	2	402.77	14.86	30.65	2
GILLFGTK	424.78	32.02	31.59	2	424.76	25.39	33.2	2
ELQAGTPLSLFGDTYESQVMVHGQGSSEGLR					1098.58	44.53	36.41	3
VIIETFFK	498.81	39.80	32.75	2	498.81	31.88	35.54	2
TPLPADTPVVK	569.35	19.79	39.27	2	569.35	14.33	53.82	2
IM(+15.99)GTSPLQIDR	623.85	20.16	45.29	2	623.86	14.71	42.39	2
DFTPTD(+37.96)MAEFAAR	503.89	42.40	31.15	3				

SGLIFYR	428.25	25.80	30.52	2				
FPVFNPATEEK	639.83	28.10	59.34	2	639.82	21.40	55.11	2
HYLFDVQR	539.30	19.71	35.8	2				
AVAVAGPR					740.36	20.25	22.5	1
SSPQFGVTLLTYELLQR	651.37	61.04	35.61	3	651.36	55.07	66.91	3
PLLMVHGWPGSFYEFYK					691.02	47.14	56.74	3
IHLISTQSTIPY	686.90	33.79	24.72	2				
ALDQLGIPVYNHTDK	561.99	29.23	39.58	3				
IPNIYAIGDVVAGPM(+15.99)LAHK					665.69	37.81	35.87	3
NVFIIGATNRPDIIDPAILRPGR					630.36	39.58	43.28	4
ANATEFGLASGVFTR	770.91	38.73	60.65	2	770.91	31.92	75.63	2
PAQVTPLTALK	569.85	24.09	35.23	2				
LEVNLQAM(+15.99)K	531.30	16.81	26.47	2				
ENLVEQHIQDIVVHYTFNK	582.33	47.72	27.28	4				
VLIAGR					628.39	48.60	21.82	1
SGGLDTSC(+57.02)ILVWLK					774.93	51.04	39.05	2
LSDGVAVLK	451.28	17.35	39.94	2	451.28	13.71	40.91	2
TNAEIQAINK					551.31	12.00	49.06	2
IEVVNFLVPH	583.84	46.70	31.71	2				
IAIIYDSPVTNTK					717.91	22.24	43.84	2
QGFIDLPEFPFGLEPR	621.34	63.51	45.04	3	931.50	58.38	47.57	2
N(+71.04)FPFLLEDPVLSAIAKK	658.37	42.68	24.88	3	658.36	36.65	25.53	3
GPGTSFEFALK	577.32	32.31	53.09	2	577.36	25.63	58.21	2
YQVQTQENYEAFM(+15.99)K					897.93	15.89	42.1	2
VYC(+57.02)GHEYTINNLK	537.62	16.41	33.46	3				
QT(-18.01)PALVVLR	489.82	24.92	29.14	2				
ALAEALMGLGYR					632.87	35.30	67.72	2
VWP(+31.99)HGDYPLIPVGK					537.32	28.26	37.99	3
SSVDWQIGQLR					644.83	25.10	56.88	2
FVSISDLLVPK	609.37	50.09	36.61	2	609.40	43.53	50.13	2
M(+15.99)TPTVLYDVQELR	790.92	37.14	24.16	2				
FADIVPLGLPHM(+15.99)TSR	557.32	36.45	34.4	3	557.35	28.77	34.11	3
YVDLGGSYVGPTQN	735.36	32.57	52.47	2	735.35	24.70	49.86	2
QGTFHSQQALEYGTK	565.62	13.49	50.35	3				
VAPEE(+21.98)HPVLLTEAPLNPK	659.37	29.20	35.86	3				
IIADIFQYTAK	641.87	41.00	44.44	2	641.85	33.49	49.48	2

DGASEEEINLSK					646.29	13.10	54.49	2
FDAVIGYK	456.76	22.21	41.8	2	456.75	16.32	42.79	2
VIENLHAAAYR	419.58	13.48	32.91	3				
Q(-17.03)YSVGDAPDYDR					684.78	19.57	41.3	2
THSVETPYGSVTFTVYGTPK					724.38	28.91	41.66	3
TFAYTNHTVLPEALER	621.34	30.97	46.03	3	621.33	23.94	67.02	3
MPMISVLGK					488.28	24.02	23.12	2
IAGLTAPPGR	476.80	16.20	33.89	2				
ETPAITINR	507.80	16.10	44.63	2	507.80	12.88	45.32	2
SWHSYDSLFR					433.22	20.97	60.26	3
GSTAPVGGGAFPTISTR	788.43	28.05	54.57	2	788.40	20.63	71	2
LLLEYTDTN(+.98)YEER					830.40	26.78	44.85	2
VLDSGAPIR	464.28	13.82	41.04	2	464.28	12.23	42.1	2
GLGTDED(-18.01)TIIDIIAHR	574.32	48.74	30.26	3				
LTLAELNQVLYR	716.93	48.64	53.3	2	716.91	41.65	64.35	2
GVILTSD(+57.02)CPR					559.32	12.77	28.82	2
YDLDFK					400.70	16.74	36.47	2
ALLFVPR	408.27	28.92	36.71	2	408.26	22.37	43.05	2
DGALTQLNVAFSR	696.38	39.52	38.08	2				
GTTILTSLTSVLHDGK	548.33	45.37	51.48	3				
LLETIDQLYLEYAK					856.46	52.80	28.15	2
VMTIAPGLFGTPLLTTLPDK					695.74	56.56	62.59	3
DAVLLVFANK	545.33	40.77	42.75	2	545.35	33.59	35.01	2
NPLFQPC(+57.02)PSLNK	707.87	26.98	46.64	2	707.88	19.99	41.33	2
VLVLYDEIK	546.33	32.74	27.99	2	546.34	26.13	23.62	2
LAIDQIDK					458.26	14.28	33.99	2
NLDLDGIIAEVK	650.37	49.31	52.14	2	650.36	44.44	57.12	2
LLFADGSR	439.75	20.01	32.48	2	439.74	15.30	34.72	2
LVGQGATAVLLH(sub D)LPNSDGETQAK	773.75	43.40	35.43	3				
VATILATGGNR	536.82	14.73	49.67	2				
THINIVVIGHVDSGK					530.33	14.46	72.46	3
IGVTVLS(+27.99)R	436.77	21.48	22.71	2				
HKELFDELVK					419.91	14.65	42.32	3
PLVASVSLNVPASVR					754.94	30.38	60.55	2
IFDTSLTR	476.77	21.51	34.89	2				
FFESFGDLSTADAVM(+15.99)N(+.98)NPK	702.99	44.19	42.57	3				

NQAPPGLYTK	544.80	13.00	33.07	2	544.81	12.05	36.85	2
TILDELVTR	530.31	38.50	46.93	2				
FEISHLR	451.26	13.99	33.34	2				
LIGAR					529.34	24.19	24.19	1
IAAFADAAVEPIDFPLAPAYAVPK	819.80	61.14	57.18	3	819.80	57.76	59.02	3
PTWGN(+.98)HTPIFR					442.91	18.65	43.15	3
AAVTSLFAKVK(+11.05)VDEVGGEALGR					743.41	37.70	33.11	3
DLIGVQNLLK	556.85	44.63	36.85	2				
AIVAIENPADVSVISSR	871.00	39.45	62.5	2				
LAELEAALR	493.30	25.05	48.34	2	493.29	18.52	44.21	2
VIISAPSADAPM(+15.99)FVM(+15.99)GVNHEK	749.06	31.07	24.78	3	749.04	23.65	23.41	3
HN(+.98)QLPLVIEFTEQTAPK	656.02	47.57	35.07	3				
VVFDDTYDR					565.27	14.56	56.01	2
FLQASEELLK	589.33	29.54	36.19	2	589.37	22.77	30.73	2
ASGTEVIQLFPEK	709.89	36.02	47.81	2	709.90	29.21	52.76	2
SLPEETVDHIVQR					761.90	17.26	54.28	2
FPEGVK					676.35	24.16	22.67	1
HDIGATVHELSR	445.58	12.99	59.28	3				
GLAPGQPVTLR	554.84	20.25	40.73	2				
QTPALVVLR	498.82	24.73	36.25	2	498.83	18.82	42.94	2
DAEEVISQTIDTITDMIK	674.70	67.63	24.82	3				
LDPSLLANFPLLK					720.94	54.96	35.22	2
TILDELVSR	523.30	39.32	34.72	2				
DFWQQEVHDIR					491.60	24.83	45.59	3
QEYDESGPSIVHR					506.25	12.04	59.95	3
LLDVTPLSLGIETAGGVMTVLIK					780.80	64.21	65.04	3
ELFIK					649.36	40.06	22.66	1
AADNIGYPVM(+15.99)IR	668.36	26.25	29.58	2	668.34	19.17	36.78	2
ADTIGVSLIK	508.81	27.44	43.01	2	508.82	20.58	48.26	2
YETELAMR					506.76	13.21	49.46	2
LLPQYLDQDLYAVVTGGVEETTELLK					969.88	64.11	47.33	3
VAF(+1.00)TGSTEVGHLIQVAAGK					629.36	34.22	29.43	3
SMVGIIAAPLSTGYC(+57.02)ASK					913.47	35.64	21.29	2
SNVGLIQLNRPK					669.88	13.61	42.14	2
DFSLEQLR	504.28	33.58	30.09	2	504.29	26.35	33.17	2
SLQQVWTPVVVLN(+.98)GLAAVR					684.38	59.99	37.3	3

QSDLDLLAK					501.79	17.89	37.37	2
SLVNLGGSK	437.75	15.34	29.65	2	437.75	13.01	35.72	2
NSLPK	558.32	36.59	22.6	1				
LYNLFLK					455.77	27.37	34.4	2
LAVLITNSNVR	600.37	23.97	39.88	2	600.38	17.40	44.34	2
LLEVISGER	508.30	25.91	39.6	2				
LQVEHPVTEC(+57.02)ITGLDLVQEMIR	860.81	54.41	38.84	3	860.80	49.37	40.5	3
NHGLSDEHVFEVIC(+57.02)PSIPGYSFSEASSK	774.14	44.93	22.97	4	774.13	38.81	37.32	4
MFVLDEADEMLSR	778.38	51.35	34.05	2				
AGVSISVVHGNLSEEAAK	589.99	22.51	37.01	3				
GVFPVLYR	475.78	33.78	31.29	2				
TDVAAPFGGFK	555.30	29.65	43.5	2	555.33	22.23	43.23	2
NLTQYNWLLDGFPR					868.95	50.41	64.69	2
ASIGK					475.33	24.61	27.64	1
DYALSPEDYALK					692.84	28.82	44.96	2
LALPG					470.31	72.81	22.98	1
YLGTQPEPDAVGLDSGHIR	675.70	26.52	73.36	3	675.66	18.91	74.18	3
DNPQTHYYAVAVVK	535.62	20.42	35.94	3	535.64	14.71	48.6	3
DIEVQGFHIPK	428.24	32.23	31.56	3	641.83	25.20	50.01	2
KQLETEEQAAFPLGGASPR					677.02	17.74	39.48	3
NVLIVEDIIDTGK	714.92	46.98	53.29	2				
ASFSVLGDILGSAMR					762.42	53.94	59.04	2
YMLWLSADLK					620.34	40.48	51.42	2
IPEVFLTK	473.80	28.12	30.58	2	473.81	21.59	31.54	2
IGPALSC(+57.02)GNTVVVKPAEQTPLTALHMGSLIK					801.46	38.71	26.07	4
PIFIDGDYPEVVK	746.40	39.87	42.64	2	746.40	32.97	54.88	2
NLDIERPTYTNLNR	573.65	23.50	39.23	3				
VLTVINQTQK	572.35	15.12	38.92	2				
HVFGESDELIGQK					729.88	14.88	50.26	2
FELTC(-33.99)YSLAPQIK					739.90	37.25	34.46	2
IM(+15.99)FVGGPNTR	554.30	18.17	31.98	2				
SELDM(+15.99)LDIR					554.30	20.22	39.31	2
AVAAINHVQDIHF	478.94	28.79	29.52	3				
LVLWDINK	500.80	35.90	34.28	2	500.82	28.99	37.13	2
TSSSTFQYITLLK	744.91	42.19	47.44	2	744.92	35.45	67.43	2
LLEELGGIK	486.30	28.64	35.33	2	486.30	21.51	35.59	2

MPSQPDVSSDEDIQYR					933.93	16.50	73.53	2
YAFQEALNSAGEK	714.36	26.24	62.64	2	714.34	19.08	64.89	2
LAAC(+57.02)FLDSMATLGLAAYGYGIR					778.73	61.45	32.29	3
VTLEYRPVIDR	454.28	22.51	32.32	3	454.26	15.97	26.88	3
VTVVDINESR					566.33	13.51	45.1	2
YFAGTM(+15.99)AEETAPAVLER	624.65	30.64	48.52	3	936.46	23.65	55.6	2
SVGMIAGGTGITPM	646.34	41.01	34.66	2				
FLTTDDIHLGVNESLTDTAR	740.05	40.50	47.28	3				
IFPVETVVEEAIQCAEK	635.69	66.81	57.71	3	635.68	63.56	73.05	3
FAAATGATPIAGR	602.34	16.93	40.7	2				
SLGGGTGSGMGTLLISK					768.43	24.97	46.51	2
LGEHNIDVLEGNEQFINAAK(+28.03)IITHPN					729.39	41.25	21.86	4
SILFVPTSAPR	594.35	33.15	39.26	2	594.36	25.70	46.99	2
VM(+15.99)QSSSDAIYLAR	728.87	18.84	31.23	2				
TVLM(+15.99)NPNIASVQTNEVGLK	682.06	33.85	39.15	3	682.03	26.96	38.39	3
EYSLDEVMTSR					665.30	23.15	65.8	2
LTLSALLDGK	515.82	40.22	49.47	2	515.85	31.94	54.19	2
AQFGSDLDAATQQLLSR	910.98	45.60	25.09	2				
LVDTFLEDVK	589.83	36.01	41.99	2				
NILLTNEQLEAAR	742.93	29.30	62.64	2	742.91	22.52	55.36	2
AAGSR					461.29	63.81	23.67	1
NYAGVFTDAGLTLK	735.40	40.56	29.6	2				
LLQVDFEDPRPSFNQLR	692.05	41.02	23.8	3	692.04	34.59	41.3	3
AALQELLSK	486.81	26.72	40.75	2				
GWYLYDKPLGR					456.58	22.13	43.63	3
DALLFPSFIH	580.33	55.69	31.84	2				
ISSLLQDAQR	565.82	18.88	48.04	2				
ETPIGLVPK	477.29	22.19	35.59	2	477.31	16.50	39.82	2
GAGAFGYFEVTH(+28.03)DITR	590.31	39.11	30.17	3				
DGYAQILR	468.26	22.36	50.09	2				
GKLPPGPTPLPIVGN					728.95	27.57	50.65	2
VTAFWGK					404.74	19.54	23.7	2
M(+15.99)MFPIFLGQR					628.32	38.31	30.07	2
HVTVIGGGLMGAGIAQVAAATGHTVVLVDQTEDILEK					918.52	58.23	71.33	4
IPLVYSLR					480.83	24.48	28.52	2
LEILQIHTK	547.84	21.44	31.05	2				

DIWNMEPSDIK					674.31	32.64	49.41	2
GLTGK					475.33	24.45	22.75	1
FYTEDGNWH(sub D)LVGNNTPIFFIR					847.42	58.10	21.23	3
LWSTSLRPELVR					486.31	23.06	21.33	3
LQLLEPFDK	551.82	37.74	28.54	2	551.84	31.02	26.14	2
MGAAK	477.25	15.27	25.77	1				
ALMGLYR					412.22	16.69	38.09	2
AMQELWLR					523.81	23.76	45.94	2
GVVISFDAR	482.28	25.63	32.83	2				
VAGGPQMIQLSLDGTR					821.95	30.39	61.69	2
TAMK(+50.02)YNLGLDLR	482.28	30.72	23.59	3				
LYEIGAGTSEVR					647.84	15.29	46.73	2
NQFLAVASSLFVASQLR					617.68	56.49	59.67	3
FVVAATLQDVIR					666.38	37.75	41.1	2
VAPIQGFSAK					509.29	13.75	39.87	2
LVLDQLR	428.78	24.14	24.38	2				
FEELNADLFR	627.33	38.68	48.34	2	627.32	32.50	49.45	2
SIDDQFLLGDALLVHPVSDSEAR	833.12	53.48	37.89	3				
YDNIVIGAGFSGHGFK	561.29	32.43	60.3	3				
LC(+57.02)EVEEGDKEDVDK					555.60	11.83	40.99	3
LFYEDIK	464.26	24.81	22.78	2				
GDVFYEER					507.75	13.18	44.47	2
QVVAQILPFR	585.87	37.14	36.18	2				
AEALLFEVK	510.31	32.13	36.38	2	510.32	25.72	34.72	2
AIFFTSGTTGFPK	687.37	37.60	27.65	2	687.34	30.98	59.71	2
AAGQK					474.30	21.76	23.15	1
VLATVTKPVGGDK	428.93	12.02	41.74	3				
NILDFPQHVSPSK	494.62	27.12	29.68	3				
NHEGLLLM(+15.99)DTTFR	521.61	26.36	31.69	3				
NPVNYFAEVEQLAFDPSNMPPGIEPSPDK					1068.22	61.90	63.98	3
PTMADELYDQDYPIHSVEDR					798.71	30.10	57.96	3
LEVELGNMQGLVEDFK	910.97	54.90	55.85	2	910.98	49.21	68.63	2
ISYEAGILENPK	667.37	26.28	39.38	2				
AIGGR					473.27	21.24	24.04	1
DFATVYVEAIK	628.34	41.48	49.15	2				
ALLSLVPVQK	534.35	34.29	32.76	2				

IAYFGGDPGR	526.77	19.63	31.99	2				
ITVVGVGQVGMAC(+57.02)AISILGK					658.37	54.65	40.83	3
FYTEDGNWDLVGNNTPIFF					1125.06	63.04	40.94	2
DASVVGFFK	485.27	35.87	38.33	2	485.29	28.72	46.3	2
C(+57.02)FGGLFGYTER	653.81	36.29	41.25	2	653.78	29.51	35.65	2
ILWLDEIQHAVNEANK					631.70	46.23	51.7	3
VVLETDTLDEAIK					723.39	26.90	41.6	2
ILGLLDAHLK	546.86	32.70	24	2				
FLPGPLFM(+15.99)K					533.33	28.09	34.47	2
GLAPVQAYLHIPDIIK	583.36	51.10	30.35	3	583.42	44.67	42.45	3
NSNVGLIQL	479.28	40.11	26.23	2				
IAPLEEGTLPFNLAEAQR	657.04	48.82	59.96	3	985.05	42.85	44.47	2
FSISWSR					441.74	22.53	30.07	2
TLDNDIMLIK(+28.03)LSSPATLNSR					744.10	39.70	26.24	3
GFQQILAGEYDHLPEQAFYMVGPIEEAVAK					1117.60	60.16	38.82	3
QIGVEHVVVYVNK	495.30	22.43	29.34	3				
IWDLEGK					430.75	17.43	25.55	2
LNLAFVANLFNK					682.40	52.85	61.68	2
TSATWLALSR					553.36	22.32	37.94	2
GISDLAQHYLMR					468.59	29.20	31.28	3
GSFPSVWNPITYLDHN(+.98)NLWR					806.40	57.17	38.52	3
Q(-17.03)TPALVALR	476.29	36.65	36.84	2	476.32	29.60	31.36	2
NYAHALDGLYR	431.57	22.75	45.93	3				
SPLIIFSDC(+57.02)DMK					713.34	33.97	38.25	2
TSFYEEYGVIR	682.34	32.85	31.06	2	682.34	25.75	61.17	2
EDLIAYLK	482.78	35.78	24.84	2	482.77	28.40	33.85	2
VDPVN(+.98)FK					410.23	13.57	26.29	2
FIYEGSSDFSC(+57.02)LPTFGVILAQK					827.10	56.37	35.47	3
LLVPYLMEAVR					652.37	43.84	45.17	2
ILTEAEIDAHLVALAERD	660.36	46.63	24.11	3				
M(+15.99)TSSDLLNALK	604.83	30.38	26.69	2				
TVDNFVALATGEK	682.87	35.39	53.57	2	682.85	28.67	61.96	2
VADLETISTATGR	667.37	23.77	58.63	2	667.34	16.88	61.82	2
NLKPVVAEFHGTK	480.62	13.02	37.11	3				
TKPADEEMLFIYSHYK					657.97	25.51	61.42	3
VYNEAGVTFT	550.78	28.28	50.89	2	550.79	21.12	47.37	2

VALSPAGVQALVK	626.90	35.30	46.12	2	626.91	27.30	56.05	2
FPAMSDAYDR					586.80	16.31	49.2	2
LLISEIAVSASEFMFEETR					724.72	63.13	51.79	3
HIADLAGN(+.98)AEVILPVPAFNVIN(+.98)GGSHAGNK	750.17	52.79	25.13	4				
SELSGNFEQVILGM(+15.99)	770.38	53.62	23.89	2				
FPGIPFPLDAAVECHRG	609.33	48.11	34.62	3				
DIVHSGLAY					487.77	19.98	28.73	2
HSVNNPYSQFQK	483.59	12.62	31.19	3				
GVSLANWVC(+57.02)LAR					673.33	39.06	46.04	2
WVINPSGGLISK					635.85	28.90	52	2
GISEETTTGVHNLYK	550.30	17.91	45.66	3	550.30	12.97	44.6	3
IGNSTAIQELFK	660.87	36.24	41.93	2	660.86	29.81	37.51	2
Q(-17.03)LELILNKPGLK	674.92	45.51	24.34	2				
IMGTSPLQIDR	615.85	25.66	47.86	2	615.83	18.62	48.53	2
DPTVYFK	435.23	21.08	23.07	2	435.23	15.82	34.42	2
ILQDIASGSHPFSQVLQEAK					723.40	31.47	23.2	3
FSAVLDELK					511.30	52.49	30.96	2
PTAEFQDR	482.24	29.31	26.9	2	482.25	22.64	29.33	2
VIPATDLSEQISTAGTEASGTGNMK	826.76	36.83	53.94	3	826.75	29.98	85.45	3
VLGTSVE(+28.03)SIMATEDR	818.41	35.57	26.82	2				
AAVTAFW(+43.99)GK	497.77	22.26	33.53	2				
LLIEMEDWK					588.84	33.72	38.48	2
FGFYEVFK	518.77	50.25	37.07	2				
ALDDTKPDGSYPAIIGF	890.45	47.97	28.41	2				
SVDDFHLGTK					559.79	12.97	59.05	2
DMDLVEVN(+.98)EAFAPQYLAVEK					1141.60	51.11	35.19	2
SGLAAYVAK	440.26	15.52	22.84	2				
ALMLQGVDLLADAVAVTM(+15.99)GPK					710.39	62.41	52.29	3
VDGLVSLLTTSEDADEPR	639.67	47.45	45.05	3				
VLPEYLSNWTMEK					805.42	36.98	55.75	2
LKLEVELGNMQGLVEDFK	688.06	53.60	50.24	3	688.03	48.02	66.81	3
SSFVEAAVSVFLK					692.40	55.75	58.24	2
FSLSWSR					441.74	22.53	30.07	2
LVVPVDGSHWLSLVGPLQPLQQK					837.51	53.29	42.64	3
TFPAWADTSILSR					732.88	38.59	62.9	2
DGWQIEEADDWLR					816.88	46.35	56.36	2

VVEAVPVLLSIPGLAAR	568.70	58.86	55.78	3	852.53	53.49	52.06	2
LLPWDPK					434.76	21.74	28.78	2
IKDPDAAKPEDWDDR					443.48	12.00	61.03	4
NPVN(+.98)YFAEVEQLAFDPSNMPPGIEPSPDK					1068.56	61.61	23.18	3
SAAFEYIITAK	607.34	33.15	43.19	2	607.37	26.38	52.31	2
ELDELVSAVEEHFFQPQK	715.71	60.90	27.66	3	715.71	55.40	33.32	3
VYVPTGFAAFPC(+57.02)ELMHLPEK					769.41	49.17	22.01	3
GLGTDED(+21.98)AIINVLAYR	581.32	52.87	32.16	3				
IM(+15.99)GPNYTPGK	547.28	12.68	22.83	2				
ALM(+15.99)GLYR	420.23	15.57	26.59	2				
VLDGLHNELQTIGFQIETIGK	775.77	56.10	46.24	3	775.76	50.54	54.98	3
LITLEEEM(+15.99)TK					611.84	14.32	25.68	2
DIVHSGLAYTMER	497.93	29.91	57.13	3	746.36	22.42	67.89	2
LGAPQAGLR	441.77	13.14	33.43	2				
YSIGEPTVPSTIAEEFTYNPF					1181.63	61.67	39.13	2
Q(-17.03)YFQSSFPAR	607.30	37.33	36.49	2				
ESVN(+.98)AAFEMTLAEGVK					848.92	36.30	35.21	2
IIVDTYGGWGAHGGGAFSGK					650.65	24.26	52.06	3
AVEHLDDLPGALSE(+14.02)LSD(+14.02)LHAHK	599.58	41.80	29.26	4				
SELSGNFEQVILGM	762.38	62.32	37	2	762.39	57.37	46.25	2
FEISHIR	451.26	13.99	33.34	2				
TVQSLEIDLDSMR	753.90	39.58	56.62	2	753.88	33.61	63.17	2
ASHNIGIAMDTEQGLIVPNVK					736.39	30.04	50.77	3
SSVAVPYVIVPLK	686.43	43.30	37.01	2	686.42	36.70	35.75	2
C(+39.99)LEEVEDLIVK	665.36	66.29	34.79	2				
GGIADALLYR	524.81	34.00	37.1	2				
QVAEQFLNIR	609.35	30.40	44.48	2				
IVEADTPGVQIGR	677.88	21.57	44.73	2				
SLLVTLASHLPSDFTPAVH					669.03	48.24	36.67	3
VLVWPVEFSH					606.85	40.75	33.15	2
LALIQLQVSSIK					656.91	35.07	48.59	2
QPYFGAVVGR					547.35	17.50	36.05	2
YVDLGGSYVGPTQN(+.98)HILR	664.03	32.21	39.6	3	663.99	24.81	51.61	3
PTVVLHGYEAVK	438.27	16.70	45.45	3				
GLFIIDPN(+.98)GVIK	643.89	48.60	34.66	2	643.87	43.72	38.3	2
IGFPWSEIR					552.85	36.40	28.59	2

GQYISPFHDIPIYADK	622.01	38.36	39.53	3				
GVQDIVVGEGTHFLIPWVQK					741.42	51.13	24.21	3
ADMWLIR					452.76	26.12	35.44	2
DIFAMDDK					477.73	20.04	32.44	2
MIFVPSSLNFLSLMEK					928.50	61.08	52.86	2
ISIPLDSNLRPEK					494.65	20.23	29.46	3
LSSPATLN(+.98)SR					523.78	12.23	40.79	2
YPITQC(+57.02)LAAPSVYR	546.97	33.68	23.26	3	819.94	25.83	46.86	2
IFEGTNDILR	589.32	29.08	50.32	2				
FFGNLMDASK	565.28	31.94	53.54	2	565.30	24.91	53.01	2
IPAFGSIPTEFR	667.86	41.57	35.8	2				
TAVDSGIALLTNF	661.37	62.35	38.04	2	661.36	56.91	41.99	2
ILEFIGR	424.27	29.77	28.47	2	424.27	22.13	33.42	2
VLGKPTTLC(+57.02)EIMGK					516.30	19.80	43.73	3
NNFAVGYR	470.75	14.99	44.22	2				
SLAM(+15.99)EM(+15.99)VLTGDR	677.83	18.62	48.89	2	677.82	13.85	51.88	2
FFDAYHDLMK					429.54	25.30	54.47	3
SMVLGYWDIR					620.33	37.43	55.19	2
KPEEVDDEVFYSPR					855.41	15.42	72.85	2
YYVTIIDAPGHR	468.93	24.06	60.77	3	702.88	17.42	63.68	2
HGSLGFLPR	492.29	18.68	33.53	2				
LLPALASVPVLPSES					746.94	52.38	56.61	2
C(+39.99)EFQDAYVLLSEK	792.87	58.82	42.18	2	792.88	53.63	43.09	2
TGLLSGLDIMEVNPSLGK					922.51	51.87	65.37	2
VFITDDFHDMMPK					532.61	34.34	41.89	3
ALATK					503.33	23.44	26.61	1
NPFGNAGLLLGEAGK	729.40	40.52	58.65	2	729.41	34.40	60.55	2
QGQIVFVFSSALNPWNK					968.02	53.21	75.86	2
LASYLDKVQ(sub R)ALEEANTELELK					793.06	32.64	31.36	3
LQNLQLQPGK	569.84	17.03	47.04	2	569.85	13.35	41.99	2
LLTPLTTLTAGQIQQLLASTR					747.13	59.08	64.01	3
KEPLFGISTGN(+.98)LITGLAAGAQVYK					817.15	49.95	24.36	3
DMELIYPFK					578.31	40.55	42.91	2
KEYGGLNVLVNNAGIAFK					636.36	38.01	42.01	3
AVDSLVPIGR	513.82	26.53	50.89	2	513.82	19.43	51.87	2
FPLFTAVYK					543.33	33.30	54.14	2

VLTEIIASR	501.31	23.11	27.94	2				
GNVGFVFTK	484.78	24.78	41.9	2	484.79	18.25	45.61	2
VALQHNIGIGGAVVVTLYK					651.36	32.62	66.69	3
ASPGHTPGC(+57.02)VTFVLNDHSMAFTGDALLIR					771.91	42.39	42.11	4
LVGQGATAVLLDLPN(+.98)SDGETQAK	766.75	45.24	32.34	3	1149.64	41.18	25.46	2
IDSGSEVIVGVNK					658.84	14.93	53.69	2
GFIGPGVD(+21.98)VPAPDMSTGER	641.98	40.31	44.12	3				
EGN(+.98)DLYHEMIESGVINLK	688.03	49.98	36.78	3				
VLVLYDELK	546.33	32.74	27.99	2	546.34	26.13	23.62	2
VP(sub A)TVSLPR					434.78	18.32	23.22	2
ANATEFGLASGVF	642.33	50.62	30.19	2				
AIPGR					513.33	68.23	21.19	1
DSTEAAAITEHVVK					735.89	14.42	69.54	2
RPIPR					638.34	26.81	22.92	1
AIDPEMFK	475.75	24.13	23.08	2	475.76	18.34	28.39	2
IQVLGSLVSLEM(+15.99)GK	745.43	44.71	35.42	2				
LGTPALTSR	458.28	14.22	37.76	2				
IGAEFLAR	438.77	22.07	43.16	2	438.77	16.53	37.28	2
VDVAVN(+.98)C(+57.02)AGIAVASK					737.88	19.62	50.59	2
TVTAMDVVYALK	655.87	42.76	64.87	2	655.86	36.28	58.65	2
LVDHVFDEQVIDSLTVK	653.03	44.78	37.73	3				
YVANIFPHK	544.82	18.72	26.77	2				
ISLLLDPGSFVESDMFVEHR	764.41	59.50	45.12	3	764.39	54.11	36.28	3
GM(+15.99)SLNLEPD(+21.98)NVGVVVFGNDK	714.70	46.73	28.28	3				
EQFLDGDGWTER					726.83	24.43	50.46	2
IAAQTLLGTAK	543.84	21.84	40.47	2				
AAVTAFWGK					475.78	19.45	52.2	2
AIGGGLSSVGGGSSTIK					724.38	14.47	42.75	2
MPLIGLGTWK					558.37	36.21	45.19	2
FGIHPVAGR	477.28	13.33	30.32	2				
ELIDLVLDR	543.33	43.72	47.78	2	543.33	37.21	44.24	2
QVVEAVPVLLSIPGLAAK	602.05	58.90	41.99	3	902.56	53.16	68.63	2
TQADLDSLVR					559.31	17.10	51.11	2
EPPFPLSTR	522.29	24.84	43.41	2	522.32	18.62	38.58	2
YVLGNPLTPGVSQGPQIDK	661.71	36.95	71.4	3	992.08	30.23	45.44	2
NSNVGLIQLNR	614.35	23.76	46.57	2	614.34	17.42	47.58	2

TLGGIPAPIYFGALIDR	887.51	60.13	38.21	2				
SDIGEVILVGGMTR					723.90	34.92	57.32	2
ADMWLFR					469.75	31.77	43.18	2
LSPAQLGDIC(+57.02)VGN	672.35	39.92	29.36	2				
ETYLAILMDR	612.84	45.98	47.85	2	612.85	39.92	54.36	2
LVQDVANNT(+1.00)NEEAGDGTTTATVLAR					854.43	20.85	54.58	3
FVTEVIK	418.26	18.00	24.37	2	418.27	13.97	26.8	2
ITDLYTDLR	555.30	26.98	38.62	2				
THTQDAVPLTLGQEFSGYVQQVK	849.46	45.40	71.47	3	849.45	39.06	81.18	3
WLPVGPHIMGK					412.23	22.10	43.13	3
AFIVLNPEFSS(+27.99)R	704.38	41.80	27.69	2				
FALPSPEHILGLPVGQHIY					696.72	47.90	30.4	3
ANLEEVLPK	506.80	24.26	46.6	2	506.81	18.21	45.99	2
QAGFIGTFISIVK					690.91	48.42	53.92	2
AERPDGLILGM(+15.99)GGQTALNC(+57.02)GVELFR	897.47	48.06	49.3	3				
IAPSFAVESIE(+21.98)DALK					806.42	50.04	44.75	2
PIDGDYFSYTR	667.32	38.88	30.47	2	667.31	31.94	40.24	2
NIPGITLLNVSK	634.90	40.74	26.17	2	634.90	33.59	46.01	2
VAAPDWTFLHC(+57.02)LPR	561.64	43.94	28.31	3	841.95	36.63	62	2
KFSLDQLITHVLPLEK					627.70	46.47	76.71	3
VGWEQ(+.98)LLTTIAR					694.42	50.53	27.38	2
VLDSFSH(sub N)GMK	560.76	21.35	26.36	2				
LGLDFPNLPY	574.82	60.29	33.59	2	574.84	55.67	21.99	2
DQEGQD(+21.98)VLLFIDNIFR	648.68	67.19	40.71	3				
DLEDLQILIK	600.35	49.66	44.69	2				
VHSFPTLK	464.78	13.06	40.97	2	464.76	12.17	47.9	2
FYGPEGPYGVFAGR	758.88	37.88	65.63	2	758.88	31.25	67.93	2
EVAAFAQFGSDLDAATQQLLSR	780.08	64.32	76.84	3	780.08	59.37	82.9	3
GYSFTT(+27.99)TAER	580.78	18.45	25.23	2				
GVIINTASVAAFEGQVGQAAYSASK	813.77	50.09	77.64	3	813.78	44.24	95.02	3
AASGFNAAEDAQTLR					761.37	14.86	63.37	2
NFYTLTLPLGR					647.86	39.99	59.57	2
VYGTVMHMN(+.98)HGNPFNLK					653.97	22.67	43.89	3
ALAQEILPQAPIAVR	530.67	41.11	47.5	3	795.49	34.72	47.11	2
LMLVAMANDLK					609.86	33.55	50.29	2
LLPLELEK	477.81	30.37	25.12	2	477.81	23.91	22.22	2

VGLSGMAIADITLLSGFHALR					714.74	57.55	49.64	3
TPVGFIGVGNMGNPMAK					845.43	32.88	72.62	2
FPGDSVVTGR	517.78	19.89	32.09	2				
GPGYGILSIR	516.80	31.62	31.76	2	516.84	23.80	30.86	2
EAALGAGFSDK					533.28	13.16	46.88	2
IVTVNSMVGIIAAPLSTGYC(+57.02)ASK					784.78	52.20	43.95	3
AVFPSDDGDLQK					646.31	14.76	35.45	2
AANQYINWLHENL					793.40	39.68	65.62	2
ILPLPVAQLLTK					653.43	47.05	42.24	2
TGAIVDVPVGEELLGR	812.97	45.60	58.43	2	812.95	38.79	52.52	2
SAIGK					475.33	19.74	25.07	1
AEVWETFQR					583.32	21.36	45.24	2
QIFLGGVDR	502.79	23.25	27.76	2				
IPNIYAIGDVVAGPMLAHK					660.36	45.77	59.03	3
HEVININLK					540.34	13.69	55.21	2
IDIIPNPQER	597.84	26.47	34.74	2				
VMVDANEVPIQK	671.87	23.22	50.16	2	671.84	16.09	63.8	2
AVASAAAALVLK	542.85	29.89	42.99	2				
VW(+31.99)PHGDYPLIPVGK	537.30	46.41	31.88	3				
ALTSGLALLQSR	615.37	35.56	45.47	2				
LGAVPFFSLLQYE					742.41	63.19	39.24	2
DLEADITGDTSGHFR					545.28	23.19	48.01	3
A(+42.01)ALTQNPQFK	580.33	28.02	25.14	2				
SATALGYLAHK	566.32	15.33	28.03	2				
HGSIIYHPSILPR	497.30	21.36	62.4	3	497.31	14.59	72.2	3
AGM(+15.99)IFYR	437.23	15.02	25.84	2				
GYLLQIFTK					541.87	37.43	36.83	2
GLVLPMALELVTVLVGSPR					655.38	65.26	52.52	3
MPINEPAPGK					527.28	12.09	47.86	2
AIFVTVDTPYLGNR	783.43	41.76	37.85	2				
ADMDFLLNELER	733.37	53.69	38.27	2				
IGGGQGIAVIIENTA	706.91	47.43	32.59	2	706.90	41.28	43.53	2
TFDSIVMDPK	576.80	27.54	60.13	2				
TLDNDIMLIK					588.35	27.69	37.46	2
FSLTTLR	419.26	26.89	29.19	2	419.26	18.35	31.79	2
PVPSC(+57.02)SIVGAISSYFVQR					656.35	52.89	41.42	3

VTIEYYSQLK	622.35	26.49	52.62	2	622.35	19.53	52.96	2
Q(-17.03)VVEAVPVLLSIPGLAAK	894.05	66.95	42.84	2	894.06	63.65	46.4	2
EIDVYVSAQFPK	698.37	36.17	42.85	2				
PAVHASLDK					469.28	47.38	49.57	2
IPAFLNVVDIAGLVK					784.99	58.32	62.24	2
FNASQLITQR	589.33	26.32	43.17	2				
LDYWLAYETIMK					773.40	50.72	47.69	2
RFTMELAK	498.28	14.50	32.94	2	498.26	12.53	36.61	2
DTTLPALGR	472.27	22.14	29.03	2	472.28	16.46	37.25	2
VNQIGSVTESLQAC(+57.02)K					817.42	17.62	43.83	2
TLTLVDTGIGMTK	675.39	34.57	46.74	2	675.35	27.01	60.33	2
VSTMEIIK	460.77	18.29	26.95	2	460.78	14.34	31.59	2
IIWQFIK					474.29	32.69	30.36	2
IQFHNVKPEC(+57.02)LDAYNSLTEAVLPK					697.38	36.87	40.17	4
TIVLYDTNLPDVSAK	824.96	39.51	53.98	2				
LGLPALPGPR	495.82	33.92	25.43	2				
GFLDTM(+15.99)LIEMAK	692.86	46.56	42.39	2				
IIYIVHDEVK	410.25	18.25	24.79	3				
PNLHGLFGR					505.79	17.60	37.38	2
LQAFQALR	473.79	21.88	29.92	2				
VPSYQALLR	523.82	28.67	33.42	2				
HLQIIYEINQK	466.94	23.31	62.81	3	699.90	17.89	66.13	2
NIMSVLAADNLLAGLR					835.97	56.29	67.45	2
AVNTLNE(+37.96)ALEFAK	486.59	36.73	33.15	3				
EGDMMMGEQVAR					677.28	14.36	64.98	2
LEVGTETIIDK					609.35	18.28	56.43	2
SVAGEIVLITGAGH	662.37	40.55	28.51	2				
VVIGLFGK	416.77	31.90	34.12	2	416.78	24.88	36.32	2
ILLM(+15.99)DLNK	488.29	22.46	24.79	2				
SAIYPTSAEHVGAALK	538.97	20.37	41.96	3	538.99	14.41	45.87	3
QVSIILLGATGDLAR					763.96	40.31	54.3	2
SVVVANYEESIK					669.35	16.21	53.21	2
YLGGTDDPVK					532.77	12.41	49.17	2
GTAVVSGEFK					497.78	12.39	48.03	2
DVADIESILALNPR	763.43	56.48	41.31	2				
ILLMDLNKEDPTVLELK					662.05	41.76	54.96	3

IGLFADIELSR	617.36	46.17	40.9	2				
AISESGVALIPGF(sub L)VK					744.45	42.41	33.64	2
Q(-17.03)HGIPVPVTPK	578.34	22.63	29.31	2	578.36	16.40	33.63	2
VLGILGLGR					449.30	30.08	27.17	2
LDAVVISTNYR	625.86	27.23	46.75	2				
KDFSSVFQFLR					687.35	38.51	58.4	2
MC(+57.02)HPSIDGFTSR					469.90	13.56	47.56	3
WWITGILDPR					628.84	50.72	33.32	2
NPNAVLTLVDDDLAQEYQK	716.05	51.28	48.35	3				
GILIGIQQSFRPQ					728.91	32.33	57.39	2
TFC(+57.02)QLILDPIFK					747.91	49.83	38.65	2
WIPQNDLLGHPK	473.27	25.73	40.24	3	473.28	17.54	53.81	3
IGPALSC(+57.02)GNTVVVK	707.90	23.80	27.96	2	707.88	16.86	38.54	2
FVMQEEFSR	586.79	24.96	49.3	2	586.81	18.48	53.97	2
Q(-17.03)AGPASVPLK	475.77	22.85	42.46	2				
INFDDNAEFR					620.79	18.90	54.6	2
EFPTVPLVK	515.32	33.54	37.77	2	515.34	26.38	36.77	2
VLVTVDPEFQTR	702.39	31.67	43.73	2	702.39	24.45	46.69	2
ELEEFVQSSGK					626.81	14.56	64.11	2
LTYVDFLVYDVLDMHR	667.02	65.18	58.42	3	667.00	60.57	72.67	3
ELQKPDSFHSLTPTFAGILVHIDNLR					737.92	45.95	67.15	4
M(+15.99)LALGITGPEGHELSRPEAVEAEATLR	716.64	36.13	37.74	4				
FIIPQIVK					479.34	30.97	31.25	2
YQVQTQENYEAF					760.34	24.54	59.21	2
SAFGAPLTK	446.26	16.22	40.23	2	446.26	13.11	43.89	2
NPGLQNLLLDDFFK	817.44	61.69	35.55	2				
AFTGFIVEADTPGVQIGR	626.69	46.37	74.02	3	939.50	41.78	66.28	2
FLASQVPFPSR	624.85	32.33	34.76	2	624.84	24.69	36.26	2
AERPDGLILGMGGQTALN(+.98)C(+57.02)GVELFR					892.47	46.64	38.57	3
IAQFLSD(+37.95)IPETVPLSAVNR	527.79	52.57	23.48	4				
LHFFMPGFAPL					638.86	52.74	24.56	2
EKELGLYLNTSGQAK	550.98	20.57	22.84	3				
LVSGWVKPIIIGR					479.98	28.29	53.75	3
GGAIALGHPLAGSGSR	474.28	15.42	39.6	3				
QGIQFYTQLK	613.35	29.44	42.08	2	613.35	21.92	49.05	2
LVTDFMAK	462.76	24.24	37.57	2	462.76	17.76	37.63	2

KVPQVSTPTLVEVSR	547.33	24.29	58.47	3	547.36	17.25	72.02	3
NSIQDIIGALFK					659.86	60.69	56.88	2
SMGPLGSPLSK					537.33	16.37	34.11	2
LVEIAQVPK	498.82	20.99	36.82	2				
MALYGSVPVLLAHSPLR					608.69	41.20	60.56	3
AQFGQPE(+21.98)ILIGTIPGAGGTQR	711.72	44.94	32.33	3	711.72	38.66	39.56	3
DLLVTGAYEITDQSGGAGGLR	698.38	46.16	30.45	3				
IFPVETVVEEAIQC(+209.02)AEK					705.35	60.38	27.77	3
NAPAIIFIDELDAIAPK	604.36	64.26	40.74	3	906.03	59.75	54.02	2
AVSNVIASLTF	561.33	56.78	28.17	2				
EFTPVLQADFQK(+72.06)					747.89	27.62	21.34	2
KYTLPPGVDPTLVSSSLSPEGTLTVEAPLPK	799.21	52.91	34.68	4	1065.30	47.12	53.32	3
ATAIELGYLTAEQFDEWVKPK					803.76	55.10	51.43	3
ASGVSDGAGAVIIASEDAVK					908.97	29.75	52.06	2
M(+15.99)IAEAIPELK	565.82	26.38	35.6	2				
ILLPGMVSR					493.29	23.01	30.01	2
IAIDTGYR	454.75	16.70	37.71	2				
ILLFLPK					422.31	32.32	22.13	2
PTANVIPSGVEWIK					755.93	33.39	31.1	2
IGFFQGDIR	526.79	31.53	46.58	2	526.80	24.61	52.99	2
EEIFGPVLAVYVYPDEEYKETLR	920.48	55.20	27.8	3				
ELPDPQESIQR					656.32	14.19	54.12	2
IVVNLTGR					436.27	14.49	29.06	2
ISIEM(+15.99)HGTLEDQLNHLR	506.27	29.88	29.7	4				
LADM(+15.99)ALALESAR	638.85	23.29	43.44	2	638.83	17.00	46.53	2
PTWGNHTPIFR					442.56	15.04	43.79	3
LLAAEAIDDIPFGITSNSDVFSK	808.44	61.32	26.41	3				
FFDAYHDLM(+15.99)K	434.88	24.66	24.08	3				
C(+57.02)VTEPVAGSDVAGIK					751.90	15.35	30.34	2
VELLPALTDNYMYLLIDEDTK	823.78	66.32	36.84	3				
IGGIFAFK	426.76	33.05	44.15	2	426.75	26.05	37.2	2
VSSLPQVTVK	529.33	18.81	26.91	2	529.35	14.05	39.69	2
FN(+.98)GNTLDNDIMLIK					804.91	42.16	36.94	2
YNELLLGVGHPEYPFVEEY	756.72	55.44	39.11	3	1134.60	52.25	48.92	2
EKDILAAIGADLSK	481.96	40.35	32.72	3				
IITHPNFN(+.98)GNTLDNDIMLIK	762.09	45.93	26.23	3	762.06	39.64	38.88	3

AALAGGTTM(+15.99)IMDFAIPHK	621.00	51.59	28.81	3				
GGIVGMTLPIAR	592.86	38.48	51.98	2	592.89	31.18	56.19	2
LLQDFFN(+.98)GK	541.80	36.83	33.11	2	541.80	29.65	31.48	2
SLGSMVSEIPEQK	702.87	28.78	41.14	2	702.87	21.62	49.6	2
VGINYQPPTVVPGGDLAK	609.02	37.17	26.52	3	913.04	30.19	32.53	2
DGWLDFK					440.73	31.67	33.63	2
AMTNQILVEK	573.83	17.87	37.1	2				
QAFQIGSPWR					595.36	25.33	47.36	2
KGFIGPGVDVPAPDM(+15.99)STGER	682.69	26.71	38.67	3				
LQVTNVLSQPLTQATVK	614.04	39.85	35.61	3				
DVLFPGYTHLQR	482.60	30.48	34.11	3	482.61	23.26	47.49	3
VPAIYGVDTR	545.82	21.92	54.22	2	545.84	15.86	57.99	2
SSQVSDGAAAILLAR	729.92	34.14	45.49	2	729.91	27.17	57.37	2
PNIPWLFLTDPK					720.91	50.63	48.58	2
IQYHEHVTEGFENMPAAF	707.34	35.33	28.49	3				
A(+42.01)ASC(+57.02)ILLHTGQK					670.86	19.54	22.4	2
AAAHMPLLFISF					659.35	53.99	29.04	2
C(+57.02)MPTFQFFK					603.33	35.53	32.83	2
NEFDWR					433.70	15.60	34.16	2
NALTTQMYHDIIAALQAASK					720.73	58.39	44.21	3
DNLLDDLQR					551.31	27.53	34.74	2
ELGTHKPLPGITVGDIGPK	483.04	26.82	23.54	4				
LTANAFLAQR					552.83	17.69	59.9	2
GHSLIEAFDTWR					716.36	32.30	52.66	2
STVDFFTK	472.75	24.29	26.65	2				
M(+15.99)FGVPVVVAVNAFK					747.43	42.97	35.12	2
VLSEHGFGLITTDIR	553.32	34.49	46.69	3	553.33	27.71	59.43	3
PAGDFNPDADAK					609.28	12.04	46.56	2
QIIFYIGHGELGSPAVLVSR					719.41	41.21	66.53	3
FDLSHGSAQVK	594.81	13.53	38.57	2				
FILEEIKK	510.32	21.37	30.43	2				
TYFPHFDLSH	421.88	32.76	33.47	3	421.88	25.71	29.1	3
SVDDYQEC(+56.03)YLAMVPSHAVVAR	803.75	37.96	27.1	3				
VMTIAPGLFGTPL					658.87	57.39	31.15	2
KPVIAAVN(+.98)GY	516.81	20.44	30.74	2				
TTPDVIFVFGFR					699.89	50.55	42.3	2

ADLTEYLSR	534.28	29.04	48.49	2	534.29	21.81	49.66	2
AAPEMVSLLK	529.81	30.16	32.58	2	529.84	23.39	31.72	2
ALDLFSD(+21.98)NAPPPELLEIINEDVAK	882.47	66.23	27.95	3				
GITWGEETLMEYLENPKK					713.38	46.30	45.05	3
FANTVGLVIER	609.86	30.04	48.33	2	609.86	23.21	63.97	2
AVNTLNE(+21.98)ALEFAK	721.38	36.78	33.17	2				
G(+27.99)PLLVQDVVFTDEMAHFDR	739.71	65.04	24.92	3				
AVAHITGGGLLENIPR	540.00	30.48	38.71	3				
GWGFLDK					411.73	23.95	28.01	2
GLDLQGFLNDLEK	731.41	59.02	51.92	2	731.40	53.61	59.84	2
DFLAGGIAAAISK	617.36	45.19	44.6	2				
AITAENLAVK	515.31	17.05	33.18	2	515.31	13.32	38.37	2
LKQEYFVVAATLQDVIR					665.03	44.71	61.76	3
FTASAGIQVVGDDLTVTNPK	678.38	40.41	53.49	3	1017.07	33.60	63.99	2
LLVVPVDGSHWLSLVGPLQPLQQK					875.21	56.44	57.47	3
LTFVDFLVYDVLDIHR	655.71	67.11	28	3	655.71	63.67	64.09	3
IEVEKPFAIAK	415.59	21.50	46.08	3	415.59	15.39	50.56	3
C(+39.99)LGLTEAQTR	566.28	34.58	24.57	2	566.30	26.98	27.25	2
DLTDYLM(+15.99)K	507.76	30.89	27.23	2	507.76	22.86	35.16	2
LTYVDFLVYDVLDM(+15.99)HR	672.35	62.65	35.09	3	672.35	57.56	41.37	3
SIEPYLK					425.24	13.38	28.55	2
EFTGLGNC(+57.02)ITK	620.32	23.12	25.64	2				
NDGSLMFQQVPMVEIDGMK					1070.03	47.25	55.15	2
IIC(+57.02)QGFTGK	512.28	13.91	33.77	2				
YEGFFGLYR	576.30	40.07	48.17	2	576.35	34.20	50.53	2
GIFVIGFSYPVVPK					761.96	49.30	70.45	2
YLPNPALQR	536.31	18.12	31.24	2	536.33	13.85	35.44	2
LAASEAATAITHQAM(+15.99)QILGGMGYVK					850.14	52.19	35.98	3
AMGIMNSFVN(+.98)DIFER					872.92	49.79	41.43	2
VVELLLPIR	526.35	43.90	33.93	2				
VINVN(+.98)LIGTFNVIR					786.98	47.23	43.16	2
DGLAFNALIHR	409.57	33.94	41.22	3	409.58	26.77	57.53	3
Q(-17.03)IDDVLSVASVR					642.85	44.86	23.06	2
YPPGPMPLPVLGNLLQVDFEDPRPSFNQLR					852.47	61.24	54.84	4
IAVIGAGVSGLTSIK	693.42	38.08	34.29	2	693.41	31.17	68.02	2
IDGNLVIR	450.27	19.14	34.08	2				

VIATFTC(+57.02)SGEK	606.82	15.48	30.92	2	606.82	12.86	30.06	2
LALDVEIATYR	632.37	38.08	51.16	2	632.34	30.95	55.88	2
LSLLEELTLAENQLLK	609.71	66.42	33.02	3				
IIQESGAEILR	614.87	21.76	40.07	2				
LALNIADDMLK	608.85	41.91	28.76	2	608.86	35.12	50.13	2
ALAAR					501.30	61.57	23.61	1
AQIHDLVLVGGSTR	489.29	22.29	30.1	3	733.42	16.22	57.63	2
ALEAFETSK					498.26	13.04	49.96	2
ELGLETYK					476.76	14.42	38.17	2
ELFLK					649.36	40.06	22.66	1
NLVTETVMQMLVDVAK					896.00	63.32	67.49	2
TEISLYLTSK	577.84	29.19	32.7	2				
VAAPDWTFLH					578.86	34.31	39.53	2
QSVEADINGLR					601.34	15.57	46.55	2
SSFFVN(+.98)GLTLGGQK					728.39	36.75	53.96	2
TGDALLIR	429.76	18.25	24.78	2				
IGIVGLPNVGK	533.85	33.61	32.54	2				
HQSLGGQYGVQGFPTIK	606.34	29.51	54.11	3	606.34	21.50	59.83	3
VTDEVVDYISGGGFSNVFPR	720.04	55.26	40.11	3	1079.58	49.53	56.13	2
TLQPEPDYGAAVAFFEER	680.68	51.75	51.08	3	1020.52	47.91	65.55	2
DC(+57.02)PVSSFNEWDPLEEVIVGR	783.40	64.78	44.23	3	1174.63	59.94	37.17	2
KYSHLVDVGQVGVNVPIPVPLPMFSFTGSR					810.97	56.09	57.75	4
ANAFVAELK	481.78	20.93	45.46	2				
AAQKPDVLTTGGGNPVGDK	609.01	14.24	67.31	3	912.99	12.04	66.72	2
IIKPC(+57.02)NHVLSLSFPIR					474.31	26.60	34.39	4
EGYLQIGVNTR	625.35	25.87	50.7	2	625.32	19.27	53.87	2
EWHHFLVVNMK					720.38	18.95	64.22	2
LFSNAYLMDLGGC(+57.02)IK					851.43	42.85	40.01	2
SSGNPLVYLDVGADGQPLGR	672.36	46.88	36.89	3				
FGILTEK	404.24	20.03	30.48	2	404.24	15.62	31.32	2
YQIPALAQAGFR	667.89	38.27	27.87	2	667.87	31.35	42.97	2
APLAIAAAVE(+21.98)QALK					694.41	46.28	39.38	2
IGAFSYGSGLAASFFSFR					942.98	56.90	72.73	2
TFAPEEISAMVLTK	768.93	46.85	42.95	2				
VTILELFR					495.84	42.89	30.52	2
SQIFSTASDNQPTVTIK					919.01	21.26	65.08	2

GPDELHYTYLDTFGR	595.29	35.68	47.72	3				
THLSLSHNPELK	459.26	11.98	45.52	3				
MTSSDLLNALK					596.89	31.34	44.29	2
DVC(+57.02)TELLPLIKPQGR	580.33	42.51	33.37	3				
DVQNTFYDIVAEQGAMEHAQAVDYVK	981.17	53.55	24.21	3				
ITVTSEVPFSK	604.34	27.06	37.87	2				
EMFPIIGQ	467.77	33.99	24.17	2	467.77	26.74	21.11	2
LIGEYGLR	460.78	21.62	27.03	2	460.78	16.13	21.25	2
GILEEELESIR					644.33	40.76	60.07	2
VYFDLR	406.73	24.94	39.3	2	406.73	18.90	35.68	2
DFTPTDM(+15.99)AEFAAR	744.35	28.37	37.22	2	744.33	20.41	43.86	2
YGLLTYFSPFLR					738.92	57.39	52.35	2
TLIEFLFR	519.81	53.36	30.7	2	519.82	47.36	36.49	2
AVTFQELDTR					590.34	17.28	54.74	2
KESYSVYVYK	422.57	14.80	33.96	3				
PVLVLSQNTK	549.83	18.05	25.23	2				
KN(+.98)GGLGHMNIALLSDLTK					628.35	35.45	54.49	3
ALFSIGFPVPK					588.39	42.80	27.36	2
QVLIDQSEEFSGR					754.38	18.59	55.1	2
LFGYQPTIYYPK					745.41	33.99	60.95	2
LLAALGGNSSPSAK	643.37	19.02	31.19	2				
VGIPVTDEN(+.98)GNR					636.31	13.41	42.15	2
TLTIVDTGIGMTK	675.39	34.57	46.74	2	675.35	27.01	60.33	2
KIEFVLDLPK	601.37	35.75	28.22	2	601.38	29.28	49.25	2
WDAWNALGSLSK					674.34	41.49	53.04	2
VLEMSSEDLEK					640.30	15.26	37.48	2
IYIDDGLISLVVK	724.43	56.20	66.2	2				
YSQFINFPIYVWSSK					939.98	53.69	58.03	2
AVFEWHITK					565.84	18.89	52.04	2
AAVAELTAMVDADAR	501.94	38.88	24.68	3				
NSLFPGTWYLER					741.89	41.01	46.91	2
DDAMLLK					403.21	14.40	38.42	2
SLFPGTWYLER					684.83	41.52	32.54	2
EFLDAGEQVVSSPADVAEK					996.00	29.53	71	2
ILESGPFVSC(+57.02)VK					668.35	21.14	30.43	2
N(+.98)DGSLMFQQVPMVEIDGMK					1070.53	55.26	28.85	2

L(+57.02)AACFLDSMATLGLAAYGYGIR					778.75	61.55	37.55	3
YLLGTSLAR	497.30	25.19	24.87	2	497.28	18.36	30.53	2
GIFHPVIISPDR	450.93	27.42	61.35	3	450.94	20.69	52.72	3
ELIEIISGAAALD	657.88	58.72	27.97	2	657.87	53.18	31.33	2
IINEPTAAALAYGLDK	830.48	38.47	51.98	2	830.46	31.48	59.55	2
VIMHDPFAMR					406.23	18.43	38.98	3
SAPLLLPGR	462.30	23.54	34.74	2				
FHYGFN(+.98)SNYLK	464.24	29.93	28.69	3	464.24	22.78	47.1	3
YYESLAQLEEQFEAGR	644.99	50.52	68.45	3				
VNIN(+.98)GGAVSLGHPIGMSGAR					636.67	21.91	43.87	3
LLEPVLLLGK	547.88	46.27	39.71	2	547.89	39.15	34.87	2
GFFNTLR	427.74	26.32	34.39	2	427.72	19.16	37.66	2
VADISLAAWGR					579.85	27.98	59.61	2
VAFITGGGSGIGFR					669.87	28.78	57.92	2
LGEYGFQN(+.98)ALIVR	740.91	40.86	50.82	2	740.90	34.70	55.23	2
QILVGVNK	435.79	15.06	27.42	2				
IIQLLDDYPK	609.36	35.59	48.23	2				
YNLGLDLR	482.28	30.73	42.33	2	482.28	23.62	43.84	2
GLPLTYVITC(+57.02)QYDVLR	637.70	55.08	40.08	3				
SFPFVSK	406.23	24.94	26.78	2	406.24	17.94	34.42	2
GLQVVEHAC(-33.99)SVTSLMLGETMPSITK					866.49	45.95	24.84	3
LNIPVSQVNPR	618.87	23.69	40.96	2				
LLEVLSGER	508.30	25.91	39.6	2				
GIHETTFNSIMK	459.92	19.65	33.27	3				
LVLEVAQHLGE(+14.02)STVR(+14.02)	560.33	33.89	27.2	3				
ALTEELSALK	537.82	27.68	43.66	2	537.83	20.78	54.23	2
DLGLSESGEEVNAAILDEGGR					1066.04	38.66	56.82	2
SLTDELALVDVLEDK					830.45	55.13	63.06	2
SHDIVLVAYGALGSQR	562.66	34.89	62.82	3	562.68	26.74	72.43	3
QATVGDINTERPGMLDFK	664.68	31.33	47.39	3	664.67	24.11	46.08	3
DHLLLATM(+15.99)EAMN(+.98)GGK	539.94	24.37	46.66	3				
KFDLGQDVIDFTGHALALYR					760.41	53.58	59.63	3
MLKPAFIFDGR					647.86	25.34	52.33	2
LPFLPTPMGK					550.87	32.35	46.3	2
LGEHNIDVLEGNEQFINAAKIIM(sub T)HPNFNGNTLDNDIMLIK					901.88	61.84	33.69	5
SDYLNTFEFMDK	755.36	44.99	65.96	2	755.34	39.50	63.03	2

AYLDLLPFIR					610.86	53.31	27	2
VLALSVETDYTFPLAEK					948.53	45.36	62.39	2
YLDEDTIYHLQPSGR	602.97	29.87	54	3				
GLGTDE(+14.02)D(+14.02)TIIDIIAHR	589.65	49.25	34.32	3				
NDGSLM(+15.99)FQQVPMVEIDGMK					1078.04	42.90	25.11	2
SC(+57.02)M(+15.99)PYTDAVLHEIQR	612.63	30.16	28.57	3				
EALQEAGFIIEK					674.35	26.09	60.31	2
AAVQVLDDIEK					600.86	20.82	45.58	2
QLAVLGAGLMGAGIAQVSVDK					666.67	46.29	62.04	3
AGLVDDFEK					497.26	16.97	44.94	2
EWVNQNHPVLLEDPVLSAIA(sub S)QK					834.14	43.04	29.54	3
IELLGSYDPQK	631.84	30.11	29.2	2				
HGGTIPIVPTAEFQDR	579.98	29.27	41.18	3	580.01	22.51	54.29	3
DTTPDELLSAVMTAVLQDVK	716.05	67.95	67.67	3	716.05	66.23	60.34	3
LGDPAEYAHLVQAIIEN(+.98)SFLN(+.98)GEVIR	718.40	66.12	35.03	4	957.52	62.95	28.69	3
VAT(+27.99)VSLPR	435.77	17.63	28.88	2				
LIIAGTSC(+57.02)YSR	620.83	20.78	25.66	2				
LSPEELLLR	535.33	38.83	37.38	2				
LYNVEATSYALLALLAR					627.69	61.88	43.06	3
DPNPMHIDATFNIIGPGLVLSNPDRPC(+57.02)HQIDLFK					769.18	52.05	23.99	5
VVDLLYWR					532.34	35.36	43.12	2
FGLALAVAGGVVNSALYNVDAGHR					791.12	51.23	60.39	3
ENTLNQLVGAAFGAAGQR	606.34	51.80	53.57	3	908.98	44.83	66.56	2
VN(+.98)NSSLIGVGYTQTLRPGVK					702.04	25.30	34.49	3
FVNVVPTFGK	554.32	33.36	30.35	2				
GILIGIQQSFRPQFL					858.99	50.92	50.06	2
IQIWDTAGQER					658.83	19.52	45.84	2
YQLAVTQR	489.79	14.76	39.93	2	489.79	12.54	34.68	2
QGQYSP(+15.99)MAIEEQVAVIYAGVR	775.74	55.48	25.79	3				
GTYQGLTATVLK	626.36	26.62	52.22	2	626.34	19.78	64.33	2
SITIIGGGFLGSELAC(+57.02)ALGR					996.58	57.38	46.89	2
ILTPLVSLDTPGK	677.42	46.05	35.76	2	677.37	32.01	55.56	2
TIPIDGDYFSYTR	774.40	38.92	29.01	2	774.38	31.71	54.28	2
LSLLELGC(+57.02)GTGANFK					790.42	36.74	40.27	2
GLLLYGPPGTGK	586.85	29.70	53.72	2	586.90	21.75	41.63	2
AEEELALPGGFLSK	730.90	42.77	37.3	2	730.88	36.64	48.82	2

YAN(+.98)ALLAIK	489.30	29.22	28.01	2				
FGANAILGVSLAVC(+57.02)K					760.41	39.10	41.11	2
TPGTWNHITEQIGMFSFTGLNPK					859.45	47.71	58.39	3
LDNLVAILDINR	684.91	50.81	36.33	2				
VYVPTGFAAFPCE(+57.02)LMHLPEK					769.39	48.81	25.86	3
TIGLDVTEYEDNLKK	579.99	33.18	34.38	3				
TLDFIDVLLLTK					695.93	60.47	45.42	2
IEYDTFGELK					607.82	23.29	53.8	2
LGGGL	416.26	17.34	26.05	1				
FIQENIFGIC(+57.02)PH					737.86	36.11	35.74	2
NLN(+.98)SDMDSILASLK					761.38	47.28	39.77	2
AAFDDAIAELDTLSEESYK					696.67	55.29	73.77	3
VLSSYPINYMVGAPIVYR					1021.57	44.88	61.27	2
PAPLLSNTPALPSIK	759.95	39.52	22.77	2	759.97	32.57	57.13	2
LGPALATGNVVVV(sub M)K					669.38	24.84	21.04	2
SPPFFEDLTLDLQPPK	615.34	57.92	32.48	3	922.51	54.70	34.17	2
VLVFR					633.36	68.11	21.03	1
EAFSLFDK	478.75	31.64	37.3	2	478.75	24.93	32.03	2
AQVSLLIR	450.30	23.94	31.03	2	450.29	17.57	36.65	2
NLFFSTNIDDAIK	749.40	45.70	49.02	2	749.39	41.52	58.63	2
SLGISPFHEFAEVVFTANDSGPR	826.43	55.01	41.07	3	826.42	50.13	53.3	3
SFSAPEHQPSALEHR					564.97	11.90	41.5	3
PGGIDTHTHMQFPF					792.89	45.24	39.3	2
LGGGI	416.26	17.34	26.05	1				
DITYFIQQLLR					705.39	63.04	51.03	2
VAEQTPLTALYVANLIK	615.37	55.56	61.06	3	922.56	50.12	72.79	2
IWPVLETDK					550.83	24.87	28.11	2
QPVGVAAVITPWNFPSAMITR					752.45	55.21	51.57	3
LATFWYYAK					581.84	30.16	39.2	2
DGGSTTAGN(+.98)SSQVSDGAAAILLAR					740.70	37.41	63.96	3
LYFEELSLER	649.84	40.73	50.95	2	649.83	33.91	56.02	2
YVSSLTEEISK	628.34	21.72	51.89	2	628.34	15.95	51.95	2
SLGM(+15.99)IFEK	470.75	22.46	25.42	2	470.77	17.31	32.38	2
S(+42.01)SSNC(+57.02)VALVTGANK	725.38	25.89	22.58	2				
VMEETFSYLLGR	722.87	45.34	68.2	2	722.88	38.92	65.24	2
LVQIEYALAAVAGGAPSVGIK					676.38	52.48	57.08	3

GPPLVHAVLSSGAR					454.26	14.25	72.45	3
ELIELNYLGTVSLTK	846.99	51.77	43.53	2	846.98	45.62	67.73	2
ATENDIYNFFSPLNPVR	666.35	56.55	27.82	3				
QGEIFLLPAGVPHSPQR	616.02	35.60	56.69	3	616.02	28.85	58.46	3
PGLVVVHAEDGTTSK	503.95	14.32	66.5	3				
SAATLITHPF	529.31	29.91	31.6	2	529.33	23.12	31.24	2
MPVVNFGPGPAK					607.37	20.40	46.63	2
PAVTQHAPYFK	420.24	14.09	33.76	3				
SPIILGSPEDVTEFLEIYK	717.41	64.05	77.62	3	1075.61	58.90	59.81	2
VVNVSSFVSVNSLK	739.92	38.73	50.55	2	739.90	31.80	70.87	2
FPGQLNADLR	565.82	25.53	28.43	2				
LPPGPFPLPIIGNLLQLDIK					719.11	64.01	73.66	3
KLEGDSTDLNDQIAELQAQIAELK	881.47	57.10	54.26	3				
IQEEALC(+57.02)LVEALK	758.43	46.09	44.08	2	758.41	42.45	50.9	2
FSTLPLNEK	524.80	20.95	29.28	2				
SMTLEIR	425.24	18.81	28.47	2	425.24	14.88	31.61	2
VDSGIQPGSDISIYYDPMISK	762.39	47.63	24.62	3				
LDYILGLK	467.80	34.86	29.49	2				
MSATFIGNSTAIQELFK					929.52	48.70	48.71	2
AVIFDMGGVLLPSPGR					814.97	48.66	41.91	2
FQELMSGPGR					561.32	14.26	41.89	2
GFVDDIIQPSSTR	717.88	35.08	49.48	2				
GNFNYIEFTR					630.82	26.03	38.67	2
MLVGTVFQK	511.80	26.67	25.42	2	511.82	19.57	46.42	2
AVVQDPALKPLALVYGEATSR					733.41	39.12	62.82	3
FNISN(+.98)GGPAPEAITDK					816.40	21.56	50.13	2
GFIGPGVDVPAPDM(+15.99)STGER	640.00	34.47	57.21	3	959.47	27.13	49.06	2
GLIDEVDQDFTSR					747.86	36.47	63.43	2
VIGM(+15.99)HYFSPVDK	470.25	18.54	30.66	3				
STGISVPGPMGPSGPR					748.88	18.66	37.17	2
EESFGPIM(+15.99)IISR	697.87	38.96	43.22	2				
NLSLSQQLK	515.82	17.99	25.2	2				
EAAIVDPVQPQK					647.85	13.88	45.69	2
ENVLIGEGAGFK					617.34	20.13	44.25	2
SMGPVGSPLSR	544.30	19.06	30.15	2	544.32	14.07	23.75	2
ELSFFAK	421.24	27.27	37.67	2	421.24	20.93	34.55	2

PIIWGLASQGEK					649.86	26.21	36.46	2
FSLSTLR	412.25	25.33	29.54	2	412.25	18.18	31.42	2
AFMTLVD(+21.98)ELIAEQK	543.97	58.85	34.79	3				
QLETIDQLHLEYAK	567.66	32.09	47.64	3				
LAVATFAGIENK	617.36	30.57	54.48	2	617.36	23.35	69.02	2
A(+42.01)GITTIEAVK					522.82	26.74	23.16	2
LIVVSNPVDILTYVAWK					965.61	61.54	59.95	2
TFSEAEIFPFNPFDLTK	1002.02	64.73	35.85	2	1002.03	59.97	37.28	2
AILYNYR	456.76	17.63	28.25	2				
VAIEPGAPR					455.26	12.03	39.16	2
GQIGAPMPGK	478.26	13.19	43.13	2				
DKFVFITGC(+57.02)DSGFGNLLAR					706.37	45.18	50.97	3
GQILTMANPIVGN(+.98)GGAPDTAALDELGLSK					942.18	53.76	49.98	3
TADTTPFHIQAEVTM(+15.99)K	602.64	24.41	29.5	3				
KDEYEFFTNLDQR	568.96	33.73	52.58	3				
FFPASADR	455.73	15.85	32.15	2	455.73	12.92	42.16	2
AAFPC(+57.02)ELMHLPEK					514.95	26.81	24.36	3
GEMMDLQHGSLFLR	545.29	37.21	38.71	3				
MTSENLLNALK					617.34	26.85	59.65	2
VLDSFSN(+.98)GM(+15.99)K	557.77	15.33	41.13	2	557.78	12.82	32.38	2
VVLAYEPVWAIGTGK					801.97	40.99	58.32	2
IIKPC(+58.01)NHVLSLSFPIR					632.34	30.42	42.36	3
GAEVHVVPWN(+.98)HD(+14.02)FTK	438.48	18.69	26.94	4				
THNLEPYFESFINNLRR					717.38	41.34	39.05	3
VDLFYLHAPDHGTPVEETLR	578.06	38.20	64.95	4				
ALGQNPTNAEVLK	677.89	17.68	55.63	2	677.87	13.25	42.63	2
DLMDDLK					425.21	21.54	36.81	2
VSFTGSVPTGSK	583.82	17.28	51.65	2	583.81	13.11	58.21	2
VINYELIK	496.31	24.54	25.76	2				
LAGVTALSC(+57.02)WLPLR					778.96	51.04	42.17	2
NSTIIFPLPIDMLQAIMGPK					1100.14	64.47	41.54	2
NVSTGDVNVEM(+15.99)NAAPGVDLTQLLNNM(+15.99)R					968.82	42.73	39.16	3
WSSC(+57.02)NIFSTQDHAAAAIAK					693.36	22.70	43.19	3
IINEPTAAAIAYGLDR	844.48	39.66	34.5	2	844.47	33.10	67.19	2
QSKPVTTPEEIAQVATISAN(+.98)GDK	795.77	32.32	37.77	3				
N(+.98)SLFPGTWYLER					742.38	50.58	31.94	2

AHGGYSVFAGVGER	469.58	18.67	42.22	3	703.85	14.11	77.88	2
IINEPTAAAIAYGLDK	830.48	38.47	51.98	2	830.46	31.48	59.55	2
WSTPSGASWK					553.82	15.73	36.41	2
LTQAQTFDYSEIPNFPESTVPGHAGR	954.81	41.61	44.59	3	954.83	34.98	59.59	3
IASVQTN(+.98)EVGLK					630.34	14.04	29.63	2
IGDTIEFR					475.76	15.79	43.05	2
VVHAFDMEDLGDK					492.59	19.13	49.69	3
MIAEAIPELK	557.82	30.91	42.66	2	557.84	24.08	48.64	2
AAVLEYLTAEILELAGNAAR					696.72	64.99	27.78	3
NILLSIGELPK	598.88	43.21	38.63	2	598.91	37.16	32.8	2
TPIGSFLGSLSSLPATK					838.46	46.87	73.42	2
YANALLAIK	488.81	27.19	40.14	2				
YITPDELANLYK	720.40	42.85	41.22	2	720.37	37.37	53.93	2
IQTQPGYANTLR	681.39	15.97	37.7	2	681.38	12.55	27.87	2
GVGAAATAVTQALNELLQHVR					707.07	60.10	54.12	3
ELNLPFGGMK					553.34	30.56	33.63	2
SAATLITHPFHVITLR					445.02	27.42	71.42	4
GGGSIVIVSSIAAYSPL(sub F)PSLGPYNVSK					878.48	55.12	52.59	3
SPFTVGVAAPLDLSR					765.43	37.60	43.29	2
PPSIFAEVPQAQPVLVFK					656.37	49.01	50.76	3
ELIRDEGITSLYK	512.96	28.89	32.49	3				
TLASHLPSDFTPAVHASLDK					703.06	47.42	45.93	3
IDGITIGQSLAIIEYLEETRPTPR	895.83	63.35	36.7	3	672.13	58.80	59.62	4
NSTFSELFK	536.79	31.20	32.68	2	536.80	24.48	45.57	2
VLMLDEK					424.24	14.22	26.04	2
FPDATEDELLK					639.31	23.87	51.89	2
DIFQAIFEK	555.81	51.65	37.5	2	555.82	45.50	43.4	2
VALIGSPVDLTYR					702.41	33.95	48.87	2
TGGLEIDSDFGGFR					735.85	34.00	44.18	2
APDEEDHVLVLHK					501.27	12.28	56.93	3
MM(+15.99)FPIFLGQR					628.35	39.29	40.05	2
FFESFGDLSTADAVM(+15.99)NNPK	702.68	42.70	63.11	3	1053.52	35.57	46.51	2
FHPEHFLDAQGR	485.25	16.89	54.43	3	485.27	13.04	48.98	3
MAASLLNPYVK					603.85	23.65	53.35	2
LGVSGAVLLER	557.35	30.55	50.39	2				
VAGPR					499.33	72.77	21.5	1

VTVVYAEDGK					540.79	12.35	49.4	2
DVTGAEALLER					587.34	24.15	46.94	2
EAVTFLR	418.24	19.98	32.02	2				
DFVTAFK	414.23	27.22	40.3	2	414.24	20.83	35.56	2
SLNLDPSK					437.25	12.49	32.76	2
DGLTDVYNK					512.76	13.83	56.4	2
LTSLPIVAK	471.31	24.49	33.17	2	471.33	17.34	37.77	2
VLVWPVEFSH(+15.99)WMNMK					640.32	43.27	27.81	3
FWLVIK					403.28	32.32	29.09	2
FAEEADVVIVGAGPAGLSAAAR	691.05	43.52	71.17	3				
DQLIQNLLK	542.84	38.66	31.84	2				
VDATEESDLAQQYGVR					890.93	21.17	69.47	2
LGMLEEDLLALK	672.88	50.47	25.76	2	672.89	45.10	53.13	2
TLN(+.98)DELEIIEGMK					753.37	41.46	41.19	2
MVEGFFDR	500.74	27.06	33.89	2	500.75	20.51	43.64	2
VVAGVANALAH	511.31	18.82	32.95	2	511.31	14.15	36.6	2
Q(-17.03)TMQVDEHPRPQTTMEQLNK	798.74	22.72	32.85	3	798.72	15.41	35.86	3
TNVLYELAQYASEPTEHEQLR	831.09	49.58	35.55	3				
DFNVGDYIQAVLDR	812.92	65.22	62.12	2	812.90	59.97	75.44	2
EGALDLSSLGAIDTTQLFSLPK	759.42	65.03	61.37	3	759.42	59.91	72.35	3
LINEIEEMGGMAK	717.87	35.62	55.13	2	717.87	28.27	51.72	2
SLQSISSFR	512.79	20.51	27.48	2				
PATVVLQTK	478.80	13.10	36.12	2				
VFDKDGN(+.98)GYISAAELR	585.98	29.56	41.67	3	586.00	22.03	44.24	3
EVINNPSYK					532.30	11.91	39.44	2
PPFDIQIIDDK	650.86	48.38	36.39	2				
VLGTSVESIMATEDR	804.41	34.89	61.45	2	804.40	27.65	74.18	2
FFPPFPK	440.25	32.40	29.69	2	440.25	25.56	37.49	2
VDILEN(+.98)QVMDVR					716.36	28.57	37.46	2
FWANFAR					456.26	20.69	35.41	2
SGVYQHVSGEIMGGH	519.92	20.02	50.66	3				
FIEQPEDLDKLR					501.63	19.40	33.67	3
ILFIFIDSDHTDNQR	612.00	42.52	45.41	3	612.01	36.15	42.19	3
EVLAELEALEGR					664.85	39.59	62.69	2
IPSAVGYQPTLATDMGTMQER					756.05	31.80	68.31	3
NFPLLMQAWK					624.34	41.98	25.72	2

GEGLSVTGTVCHVGK(+57.02)	500.93	16.52	22.58	3				
ALEESNYELEGK					691.33	13.12	63.64	2
FSSQ(sub E)TWQNLGTLHR					558.86	21.85	24.57	3
YFAGTM(+15.99)AE(+21.98)ETAPAVLER	631.97	37.13	44.35	3				
GHEVTVLIPSVTTFIDPK	651.71	48.45	42.11	3	651.70	42.96	46.13	3
LQAEIEGLK					500.80	14.69	37.89	2
AISESGVALIPGLVK(+34.06)					744.46	42.11	34.34	2
LLAQTTLR	458.30	15.32	23.6	2	458.27	12.64	28.05	2
M(+15.99)LLFTEVTR	563.31	29.54	35.64	2				
LQVAGEITTGPR	621.35	19.94	51.1	2	621.36	14.58	51.41	2
TSALPIGEIATVSK	693.92	33.65	36.26	2	693.89	26.37	42.5	2
IALPG					470.31	72.81	22.98	1
Q(-17.03)VAEQFLNIR	600.84	47.79	38.33	2	600.85	41.59	34.49	2
AGWTIVTPPTPIIPDDHPLWMSSK					887.16	50.36	38.42	3
ELSGVDLVIEAVYEDM(+15.99)NLK	718.38	63.99	39.52	3				
GFQQILAGEYDHLPEQAFY	742.71	56.29	24.18	3				
LDQLIYIPLPDEK	778.95	49.93	39.49	2	778.93	45.37	42.79	2
LIGQIVSSITASLR					729.46	48.95	51.47	2
FFVAPFPEVFGK					692.86	49.43	41.39	2
TAGWNIPMGLLYSK					775.90	45.65	52.7	2
FYAYNPLAGGLLTGR					806.92	42.36	69.53	2
LLDHLFANVIPK					460.63	36.82	64.69	3
FAVESIEDALK	611.34	41.37	27.25	2				
EMQSLTFQNC(+57.02)YSGGFLSHWDQLTR					969.13	47.13	35.37	3
Q(-17.03)VHPDTGISSK					576.31	11.96	39.57	2
FAPPQPAEPWTFVK	807.93	42.70	39.57	2	539.00	36.57	58.33	3
AISESGVALIPGLVK(+34.05)					744.45	42.10	32.19	2
AGK(+42.01)PTLHYFN(+.98)GR					702.38	14.33	38.77	2
NFLEM(+15.99)HQL	524.26	24.24	23.63	2				
ESYSVYVYK	569.29	21.23	43.15	2	569.31	15.61	44.33	2
AGDTVGEGDLLVELE					758.89	46.51	45.62	2
LPELLDFR	501.80	41.75	34.03	2				
VSPEEFTEIMNQR	527.26	39.17	52.17	3	790.38	32.78	60.27	2
SYELPD(+21.98)GQVITIGNER	604.98	40.47	42.33	3				
L(sub T)ILDELVMR					551.34	35.19	22.75	2
AGTFQAFEQFGQQLLAHGHYASPEIK					719.63	47.51	44.19	4

VTVVLGASQDIIPQLK	561.02	52.19	39.63	3	841.01	39.39	58.21	2
AAFEYIITAK	563.83	31.22	44.9	2	563.85	24.41	55.11	2
LAELMEQHQEELATIEALDAGAVYTLALK	1057.56	63.03	28.36	3				
VELKPGETLNVNFHLR	467.27	31.20	47	4	467.29	24.18	64.98	4
ESQVYQAFK	550.29	16.39	48.21	2	550.30	13.29	43.74	2
GEFQLLLDALDK	681.39	56.84	42.77	2	681.37	54.92	49.25	2
KFDQLLAEEK					610.85	13.66	41.43	2
IITHPNFNGNTLDNDIMLIK	761.76	42.49	37.4	3	761.73	36.04	57.49	3
DPLGFMTSLQK	618.83	44.00	37.22	2				
FQFFQR	436.73	26.48	30.05	2				
TFAVQGFGNVGLHSMR					860.97	26.40	71.61	2
DLDVAILVGSMPR	693.38	54.65	30.79	2	693.38	48.46	53.02	2
QSLLQPLNVEIDPEIQK					982.55	41.59	47.48	2
VGLPPLEK	426.77	20.65	35.2	2	426.77	15.39	35.31	2
MALDIEIATYR					648.34	33.47	52.25	2
TVLMNPNIASVQTNEVGLK					1014.57	31.42	69.18	2
EAILELITSR	572.85	42.80	42.74	2	572.86	38.53	46.18	2
LDQGVAPLAGTNK	642.37	16.49	48.8	2	642.35	12.96	56.11	2
FWSVDDTQVHTEYSSLR					690.67	26.95	52.9	3
SLMPVVNFGPGPAK					707.40	31.71	39.53	2
DVNAAIATIK	508.30	23.47	44.21	2				
QGAVPVLYLSLAK					679.91	36.50	51.02	2
LWHLQAPLPAGIK					481.99	29.49	45.8	3
HALIIYDDLSK	644.36	25.19	56.59	2	644.34	18.52	69.49	2
VM(+15.99)LPANSFQGK	604.32	19.79	40.19	2				
HWPFYQK					503.25	13.96	52.35	2
HLETLAGPQIR	412.25	15.70	37.48	3	617.88	12.64	62.22	2
QFYPDLIR	526.30	32.06	38.33	2	526.32	25.21	32.04	2
FDYQDDQFQELLR	572.96	38.61	48.9	3				
GSGAPVLLR	435.28	16.07	25.22	2				
GVVDSEDIPLNLSR	757.41	36.67	65.63	2				
GMSLNLEPDNVGVVVFGN(+.98)DK	702.36	54.41	28.04	3				
M(+15.99)C(+57.02)LGEQLAR	547.27	14.18	22.91	2				
VVYEAGVFSVSAGDGK	792.92	32.51	67.69	2	792.91	25.16	69.24	2
LNDGHFIPVLGFGTAEAK	629.36	40.62	50.65	3	629.34	34.11	66.5	3
VNNASLIGLGYTQTLRPGVK					701.05	27.05	35.01	3

DSTLIM(+15.99)QLLR	603.35	46.73	26.25	2				
KISSVQSIVPALEIANAHR					678.35	25.84	71.38	3
LVVSTQTALA	501.81	27.85	42.53	2	501.81	20.91	43.49	2
IPLNDIFR	494.29	35.05	33.79	2				
YFSMTEVDK	560.27	22.04	46.07	2	560.29	16.33	43.36	2
IIGAR					529.34	24.19	24.19	1
FVFSLVDAM(+15.99)N(+.98)GK	672.83	41.06	50.83	2				
VMDRPGNYVEPTIVTGLDHDASIVHTETFAPILYVFK	829.82	59.65	28.93	5	829.83	54.80	40.72	5
DTTASAVDVGLR					602.83	15.58	62.42	2
TPFGAYGGLLK	562.32	34.85	57.02	2	562.33	27.56	64.48	2
SETSGSFE(+37.96)DALLAIVK	568.96	57.05	23.8	3				
YVTVQTISGTGALR	733.42	35.80	60.75	2	733.42	19.88	66.32	2
LNDGHFIPVLGFGT(-18.01)FAPR	647.36	51.05	38.39	3	647.34	44.59	36.81	3
SVDPTLALSVYLR					717.41	43.43	62.2	2
VLILGSGGLSIGQAGEFDYS(+27.99)GSQAVK	861.13	51.97	34.32	3				
YWGVASFLQK					599.88	35.94	46.48	2
WFGGVPLISLGK					637.37	46.12	53.86	2
LGEHNIDVLEGNEQFINAAK	737.73	36.33	68.91	3	737.70	28.92	76.4	3
IIYGGSVTGATC(+57.02)K					663.86	12.72	43.45	2
VIPATDLSEQISTAGTEASGTGNM(+15.99)K	832.09	34.13	33.56	3				
VVEGLPIN(+.98)DFSR	673.87	35.22	27.78	2				
TFAVQGFGNVGLH	673.86	38.43	44.99	2	673.84	31.63	45.39	2
GFYIYQEGVK	602.32	26.44	45.26	2	602.35	19.77	47.15	2
SETSGSFEDALLAIVK	833.95	57.01	62.39	2	833.94	53.60	83.81	2
GVEFLAVPSTYYK	737.39	40.71	49.86	2	737.38	34.21	60.56	2
EILVGDVGQTVDDPYATFVK	722.73	49.81	67.33	3	1083.58	45.01	56.91	2
LMFNDFLLASGDTQTGIYK	712.04	55.85	54.84	3	712.03	52.67	58.59	3
PIEEVLK	414.26	15.65	24.11	2				
YLGTQPE(+37.96)PDAVGLDSGHIR	516.51	26.70	37.83	4				
TILPAAAQDVYYR	740.91	32.70	32.83	2				
DKPDNFQLFQSPH	524.93	29.23	33.01	3				
KYPGILDVK	516.82	17.86	43.87	2				
RGQNQPVLNITNR	503.96	13.70	27.59	3				
FEELNMDLFR	657.32	46.09	55.05	2	657.32	39.86	54.24	2
AEYLHTWGGLLPVISK					595.40	39.55	52.47	3
VKVDEVGGEALGR					443.58	12.37	52.14	3

AELAGVAGLR	478.79	20.80	41.36	2				
NISFTVWDVGGQDK					783.40	36.42	44.81	2
FDGILGMAYPR	620.32	41.41	41.67	2	620.33	34.71	61.14	2
INAWNSPTLPIYEPGLK					957.03	40.40	58.82	2
DMDLVEVNEAFAPQYL					927.47	60.54	48.15	2
INLIYSR					439.78	15.45	31.49	2
Q(-17.03)NLIAEISTK	550.31	42.32	28.31	2	550.33	35.40	25.04	2
HFGC(+57.02)SSYSVANNEK	533.91	12.02	26.64	3				
ALQASALAAW(+15.99)GGK	630.35	26.64	35.77	2				
KYSHLVDVGQVGVNVPIPVPLPMFS					898.20	57.43	29.1	3
IPAQSVILLHAC(+57.02)	661.38	33.46	26.95	2	661.37	26.66	31.08	2
IIFDDFR					463.26	26.74	21.75	2
VPSTEAEALASSLM(+15.99)GLFEK	666.01	61.01	22.49	3				
AVPQLQGYLR	572.85	37.26	30.22	2	572.85	21.36	37.92	2
SASVQGFFLNHYLPEFR					671.33	44.40	49.02	3
IPLSDGNSIPIIGLGTYSEPK	724.41	51.09	54.37	3				
TIPMDGN(+.98)FFTYTR					782.37	40.08	41.66	2
LSLTNDPLEAAC(+57.02)GGN					766.37	33.28	27.56	2
AVFWIEFVM(+15.99)R					657.34	47.81	39.59	2
TK(+42.01)PADEEMLFIYSHYK	672.01	41.57	26.93	3	671.98	35.56	37.76	3
IAALQSFADQLIAGGHYAK					658.68	41.04	75.47	3
VSYFPTVPGVYIVSTK					878.98	43.23	36.19	2
PSYVLSGSAM	506.26	29.95	29.93	2				
VVPEMTELLK	579.84	35.29	28.97	2				
S(+42.01)DQALSFLK					525.79	37.46	22.51	2
Q(-17.03)HLQIQSTQSSLNEVIQNLAATK	845.46	55.84	34.08	3	845.46	49.41	41.17	3
VALLGGGYC(+57.02)MSK					628.35	19.92	34.46	2
LATLPEKPPAIDWAYYK					659.35	34.07	46.34	3
LLMDDLK					424.24	18.45	30.94	2
FVAVTSTNAAK	554.82	12.72	46.07	2	554.80	12.03	44.73	2
MIASALAQIPQK					635.85	20.79	59.75	2
PQFLGVAEQLHN(+.98)EGFK	605.65	36.64	35.74	3	605.68	29.67	37.38	3
TGLQAGLTIDEFAPR	794.94	41.90	51.44	2				
ALPDVVAQYQALGAELNVLPF	743.43	67.49	45.06	3	743.41	64.70	37.24	3
YSTDVSVDEVK					621.29	13.14	58.85	2
WDAWNELK					531.28	25.17	38.32	2

PVLQADFQK					523.30	27.96	31.53	2
GLAAR					487.32	69.78	24.72	1
LASGIPIELLGNIK	719.45	51.04	27.55	2	719.45	44.68	50.92	2
GEYLPLLQGK	559.33	32.90	43.72	2	559.34	25.92	46.3	2
FLFVDADQIVR	661.86	45.62	40.68	2				
FGSVETWPWQVLSK					832.45	48.19	49.04	2
ETTVQGLDGLSER					702.85	16.69	60.75	2
LN(+.98)SFLGDDIFLR	705.89	54.87	35.47	2	705.88	50.37	46.91	2
LAVNMVPFPR					572.38	30.15	47.1	2
AVNTLN(+.98)EALEFAK					710.87	24.89	52.98	2
GEADAMSLDGGYLYIAGK					915.94	38.04	73.21	2
SGTHNIKPLLPYTPGFDVAGIIEAVGESVSAFK					854.47	62.37	52.22	4
ARPEFMLPVHFYGR					574.00	27.92	63.79	3
VYGDIISTPAK	582.32	21.10	40.55	2				
IHTGR					583.32	69.28	22.45	1
MILQQN(+.98)YTSLR					684.35	23.48	38.13	2
SIS(-18.01)ISVAR					407.76	13.00	26.92	2
TFD(+37.96)IQLGDIVDEIQR	600.63	57.90	25.52	3				
RHPYFYAPELLYYANK					682.35	30.31	66.76	3
AVN(+.98)TLNEALEFAK	710.89	40.51	48.32	2	710.87	33.64	53.38	2
LLASGDTQTGIYK	683.87	19.08	24.7	2				
ALGVLAQLIWSR					663.90	50.41	36.22	2
TADTTPFHIQAEVTMK	597.31	29.51	51.47	3	895.48	22.44	77.2	2
VLSIGDGIAR	500.81	23.46	35.53	2	500.81	17.19	37.44	2
ALDLAENEM(+15.99)PGLMHMR	615.30	30.40	28.31	3				
HSMNPFCE(+57.02)IAVEEAVR	630.32	36.82	42.3	3				
VGNPAEDFGTFFSAVIDAK	662.35	64.47	38.4	3	993.02	61.87	74	2
SLFHYR	411.73	13.39	30.7	2				
EANNFLWPFK					633.33	42.70	31.64	2
IITHPNFN(+.98)GNTLDNDIMLIK(+27.99)LSSPATLNSR					835.45	47.14	44.55	4
EAFQLFDR	513.27	31.94	44.93	2	513.28	25.12	40.64	2
DMITFLDK	491.76	38.38	25.88	2				
HFDLSHGSAQVK	442.57	27.96	28.1	3	663.34	20.71	48.37	2
LVAIVDVIDQNR	677.90	40.43	47.32	2	677.90	33.57	47.36	2
SPIILGSPE(+37.96)DVTEFLEIYK	730.06	64.15	22.78	3				
VWPHGD(+14.02)YPLIPVGK	531.30	50.19	22.4	3	531.31	28.26	35.56	3

IIAEGAN(+.98)GPTTPEADK					792.90	12.38	48.25	2
VLHGSTVASVYK	630.87	12.47	45.66	2	630.87	11.98	57.29	2
YYTVFDR	482.25	22.25	31.74	2				
EGADLLMVKPGTPYLDIVR					696.39	41.56	53.7	3
ILGADTSVDLEETGR					788.40	21.86	69.66	2
LLYEC(+57.02)NPMAYVIEK					871.95	39.58	45.72	2
TGSTEVGHLIQVAAGK	523.31	26.85	56.75	3	784.44	19.84	51.64	2
ASTVLSVGGIR	530.32	22.36	26.61	2				
YMHSGPVVAMVWEGLNVVK					706.05	47.83	45.49	3
EWVNPNLPFLLEDPVLSAIAK					1183.23	62.61	39.6	2
FQELM(+15.99)SGPGR	569.28	13.39	36.43	2				
QAVSM(+15.99)FLGAVEEAK	748.39	35.09	33.01	2				
DGPLN(+.98)MILDDGGDLTNLIHTK	751.74	56.55	25.48	3				
FATPLTR	403.24	17.05	32.49	2				
VMTIAPGLFGTPLLT					765.95	60.82	42.37	2
LFGAAEVQR	495.78	17.55	36.24	2				
IFNTWLGDPSK					639.33	29.15	46.73	2
AILNYIATK(+27.99)	517.81	28.24	25.89	2				
DPVVLNFNPF	581.32	63.24	28.54	2				
PQVAVIC(+57.02)GSGLGGLVNK	834.96	36.63	29.27	2				
AIQAAFFYLEPR					713.39	40.03	60.63	2
SYSPYDMLESIK					716.86	37.95	47.87	2
M(+15.99)NLGVGAYR	498.76	14.20	27.52	2				
GTFAALSELHC(-33.99)DK	453.24	23.84	22.9	3	453.24	17.41	36.36	3
YLPDMLLLEEC(+57.02)GLLR	612.34	60.50	40.11	3				
AILN(+.98)YIATK	504.31	30.93	25.38	2	504.32	19.04	30.97	2
ALNDHHVYLEGTLLKPN	645.37	26.30	57.11	3	645.34	19.18	53.25	3
IFPVETVVEEAIQC(-33.99)AEK					936.01	63.40	33.02	2
YLAIAPPIIK	549.86	37.02	25.29	2				
ILM(+15.99)VGLDAAGK	552.32	24.15	34.97	2				
YEYGIFNQK	581.29	24.39	53.47	2	581.32	18.20	51.92	2
YQIDPDAC(+57.02)FSAK					707.82	19.53	34.7	2
DIINEQFLLQR	694.90	43.93	48.27	2	694.88	37.79	56.41	2
INEDIGHGDLSELPELHALTAGLK	636.36	46.58	40.54	4				
LN(+.98)DGHFIPVLGFGTAEAK					629.68	39.72	42.33	3
LITLEEEMTK					603.84	21.01	50.96	2

AGVANALAHR	490.29	15.32	45.99	2	490.25	12.38	46.26	2
EAFSLFDKDGDGTITTK	615.66	32.58	59.25	3	615.65	25.51	54.33	3
GKPDVVVKEDEEYKR					448.50	11.86	63.75	4
YTGTPPPNLAK	579.82	13.06	37.11	2				
EFEPLLNWMK					653.84	46.14	46.04	2
VQVSVFK	403.75	16.71	32.46	2	403.75	13.54	38.18	2
GVILNISSATGR	594.36	27.00	35.73	2				
LVILEGELER					585.88	25.57	35.83	2
DFPVDFFER	586.29	50.79	24.51	2				
VLLEAAIR	442.80	23.25	33.63	2				
VDILENQVMDVR	715.89	36.16	49.53	2	715.87	28.73	62.05	2
PAFENVLK	459.27	38.92	28.55	2	459.28	32.53	37.92	2
AALAGGTTMIMDF(+31.99)AIPHK	626.34	42.92	26.47	3				
MLTPAFHYDILKPYVGIMADSVR					660.09	48.28	49.82	4
SNM(+15.99)IASALAQIPQK	496.61	31.02	32.69	3	744.42	23.55	37.2	2
YDLGGLVM(+15.99)VK	555.80	34.79	25.7	2				
DQLLLGPTYATPK	708.91	33.40	35.65	2	708.89	25.90	39.43	2
IC(+57.02)YSPDFEK					579.80	15.09	29.46	2
YGGSYFPK	459.73	16.02	45.2	2	459.71	13.06	45.43	2
IMQSSSEVGYDAMLGDFVNMVEK	850.76	62.99	88.89	3	850.74	57.73	66.33	3
FSFTGSR	401.20	15.69	24.24	2				
LNVLANVIR	506.33	33.09	23.84	2				
QAVAVPLALAETVASLWPALR					726.11	64.56	60.07	3
ALGLSNFNSR	539.80	22.28	34.77	2	539.80	16.10	44.11	2
KLFYSTFATEDR	493.27	23.66	34.95	3	739.37	17.45	57.7	2
LHVDPENFK	549.80	15.46	57.95	2	549.81	12.54	53.71	2
LFDTVAVLLSLR					673.89	57.73	65.27	2
LGEHNIDVLEGNEQFIN					970.99	33.37	40.54	2
AVFPSIVGR					473.30	21.47	30.94	2
HEPVGVC(+57.02)GQIIPWNFPLLM(+15.99)QAWK					912.84	56.32	34.75	3
ASPSPTDPIVPVVPIGPPPTGFR					766.78	45.93	42.36	3
GCLIEILASR	537.81	36.69	38.29	2	537.85	30.44	34.64	2
M(+14.02)FLSFPTTK	543.28	47.23	22.63	2				
LGQSDPAPLQHQMDIYQK	690.36	25.09	30.24	3				
LLLNNDNLLR	599.36	32.85	24.81	2				
VLIQVGYEPLAPTVGR					856.49	35.94	61.44	2

HVLPPGDAPAGLR					650.37	12.49	37.96	2
LVQDVANNTNEEAGDGTTTATVLAR					854.10	19.90	68.2	3
GIVDQSQQAYQEAFEISK	681.01	43.15	41.38	3				
LAAISEATR	466.28	13.04	37.93	2				
LTSEDLSDNVFK					684.32	22.63	64.01	2
LSIIATDHTYR	430.58	18.04	32.89	3				
IQLISNMLDK	587.84	34.91	44.51	2				
LFLER					677.40	13.27	29.48	1
AMGNMNSFVNDIFER	872.93	57.56	27.59	2	872.93	56.95	47.82	2
VVAVDC(+57.02)GIK	480.78	13.77	26.8	2	480.76	12.20	28.28	2
AYADFYR	453.22	17.99	23.5	2				
GIFVQSVLPFFVATK					827.01	56.92	65.85	2
LWYTVDK					462.77	16.63	22.63	2
GLLQQPEAGGIFK	679.40	34.22	48.41	2	679.36	28.19	49.21	2
VVDALGNAIDGK	586.33	22.08	60.47	2	586.34	15.92	53.71	2
FQVIVYNPLGR					653.37	36.20	29.5	2
SLQAYLEK	476.27	19.64	31.89	2	476.28	15.09	35.74	2
VLEQLTGQTPVFSK	773.94	34.01	64.05	2	773.95	26.34	54.94	2
EEAESTLQSFR					648.80	14.64	57.82	2
FAIEAGFR	455.76	26.87	42.66	2	455.76	20.30	41.97	2
IAVIK					543.37	19.99	23.87	1
VDLAA					488.31	69.85	22.27	1
VDIMENQIMDFR	755.87	43.66	57.07	2	755.84	38.00	65.49	2
LLPDGTTGFINQK	702.40	29.44	35.81	2	702.39	22.05	64.48	2
ILFQEFR	476.78	30.43	24.5	2				
DILIVVGNEIIEAPMAWR					1020.09	61.62	39.13	2
VFLEN(+.98)VIR	495.79	35.18	27.41	2	495.81	28.16	24.97	2
WLAESVR					430.74	13.51	27.89	2
HLPSVPGLLK	530.84	25.74	37.03	2	530.86	18.58	42.39	2
SIAMEEISR					518.27	13.59	34.3	2
SLGMIFEK	462.76	28.25	35.15	2	462.75	21.68	38.57	2
SELSDLHAHK	568.79	38.70	41.73	2	568.82	32.21	50.97	2
IIPPGSGIIHQVNLEYLAR					697.41	37.54	47.78	3
GNLLLPGFK	479.80	35.29	32.27	2				
LLSHSLLVTLASHLPSDFTPAVH					819.14	49.89	31.42	3
VSQDASPGSPLEK					657.83	11.95	42.73	2

LLYDLADQLHAAVGASR	605.01	44.20	50.45	3	907.02	37.00	66.45	2
SGGGFSSGSAGIINYQR					829.43	17.79	69.38	2
VVNVSSIMGR					531.31	18.32	49.16	2
MVVESAYEVIK	634.34	29.72	50.48	2	634.34	22.52	57.86	2
TLDSLLLPTAK	586.36	36.08	36.11	2				
YETLISTHESTIR	517.28	18.40	60.67	3				
VVQLDVR	414.76	14.96	33.24	2				
SLNYWSNLLGMK					713.38	44.54	52.71	2
LQAIQFK	424.26	18.41	27.13	2	424.27	14.40	30.85	2
KYTPEQVAMATVTALHR					479.79	26.98	78.84	4
SHDIVLVAY	508.79	29.26	27.11	2	508.79	22.56	21.18	2
AYNMVDIIHAVVDER	582.32	53.01	57.53	3	582.33	47.56	64.72	3
AADLLSGPR	450.26	15.57	48.37	2	450.27	13.06	40.28	2
QGGGNLVTMTTAPR	701.88	19.50	30.84	2				
LVAGEMGQNEPDQGGQR					893.41	12.09	82.47	2
YAFQEALN(+.98)SAGEK					714.83	17.68	53.58	2
ESGYLHIQSTKPDTVGC(+57.02)ALNDSPVGLAAYILEK					887.48	49.45	26.82	4
LDHHPEWFNVYNK					566.99	16.71	72.18	3
VGPAEVENALAEHPAVAESAVVSSPDPVR	966.52	40.62	55.82	3	966.50	35.89	70.6	3
GTAVR					503.32	12.78	25.1	1
IGVTVLSR	422.78	19.44	42.68	2	422.78	14.47	40.02	2
ALAENPGLVNK	563.33	14.62	48.74	2				
MILQQNYTSLR					683.85	19.63	58.07	2
AQIPVIAVESDKK	466.62	19.52	39.07	3				
DLAGSIIGK	437.26	25.88	30.22	2				
SGYLLPDTK	497.28	19.40	46.99	2				
LTPEEIER					493.77	12.43	40.02	2
DKEVAFWNELLSR					536.31	40.89	52.08	3
MPYTD(+14.02)AVIHEIQR	529.62	30.02	27.22	3	529.63	22.93	31.29	3
DLATVVSDMIFLLK					782.96	65.85	52.27	2
IPVGPETLGR	519.81	20.65	41.59	2	519.81	15.07	43.52	2
FLVDFGK	413.24	31.39	30.69	2				
TWEALEK					438.72	13.38	31.13	2
NVNVQNFHISWK					495.96	24.13	24.28	3
KTQELLSQLPFK	477.97	32.40	22.91	3				
LGANSLLDLVVFGR	737.43	62.30	54.08	2	737.42	56.84	68.02	2

LPPGPTPLPIIGN					643.36	42.67	26.25	2
S(+42.01)SSAMPDVPAPLTN(+.98)LQFK					973.51	51.07	27.35	2
QAGPASVPLK	484.29	13.29	36.92	2				
FEASGPQLLPVR	657.38	31.97	50.45	2	657.34	24.58	65.19	2
LVGVPAALDLIISGR	747.46	60.06	48.83	2	747.47	54.72	58.58	2
IAFFGAVYSC(+57.02)SK					675.31	30.20	41.29	2
GLSQSALPYR	546.30	18.41	42.42	2				
QC(+57.02)SSGLQAVASIAGGIR					837.93	31.86	50.04	2
VPVPMPVIVLR					610.47	38.87	51.92	2
LALQQDLTSMAPGLVIQAVR					708.75	52.17	30.5	3
DAGHPLYPFNDPY	753.36	40.92	44.91	2	753.35	34.18	39.12	2
DLFSEAHSEFLK	474.92	38.28	35.99	3	711.85	31.18	63.11	2
ADLEMQIESLTEELAYLKK					742.05	56.17	54.45	3
VFVVGVGMTK					518.83	20.19	44.87	2
TFESLLDFSR	607.83	45.21	51.91	2	607.83	40.42	50.61	2
ENVQDVLPALPNPDDYFLLR	776.77	63.68	33.83	3				
GISMPELFLDPAYR					804.93	48.07	66.61	2
DSQGLC(+57.02)IPARPGEAGLLLTQVLR					822.12	49.48	48.39	3
IEDFLER					461.26	17.46	21.54	2
DFNVGD(+21.98)YIQAVLDR	549.61	65.30	23.21	3				
KNNLFAFFDMAYQGFASGDGNK					814.72	55.29	57.53	3
GVNLPGTQVDLPGLSEQDVQDLR	817.43	51.41	22.4	3				
Q(-17.03)SVWTSTISSHLATK					814.91	30.86	35.64	2
MFGVPVVVAVNAFK					739.44	48.22	58.29	2
YAVFALGNK					491.80	19.33	35.57	2
LIDLHSPSEIVK	450.94	26.17	38.93	3				
SQETDC(+57.02)PYFSTPLLLGK	978.50	46.26	40.82	2	978.49	39.58	54.39	2
YGLAAAVFTK	520.80	29.11	55.55	2	520.81	21.99	58.08	2
TGNLHGQPVSF	578.80	18.33	25.06	2				
GHEITVLVPSTSSLLDHTQIPF	797.78	54.46	28.88	3				
DM(+15.99)DLVEVNEAFAPQYLAVEK					1149.08	46.73	35.87	2
IPFVYSHY	513.27	29.80	30.16	2				
VIVFR					633.36	68.11	21.03	1
DFLAGGVAAAISK	610.35	39.37	38.45	2	610.36	32.07	66.46	2
LGAN(+.98)SLLDLVVFGR	737.94	66.15	40.34	2				
VW(+3.99)PHGDYPLIPVGK	527.97	47.00	31.6	3				

VVIGMDVAASEFYR	778.91	43.00	71.76	2	778.90	36.58	68.78	2
AALAGGTTMIM(+15.99)DFAIPHK					620.98	32.24	33.45	3
AVLLGPPGAGK	490.31	18.16	25.05	2	490.32	14.19	35.94	2
ISS(+27.99)VQSIVPALEIANAHR	645.04	53.63	25.6	3				
VALNTLAR	429.27	15.38	35.12	2				
DEDITEPPSILAAAEK					849.93	32.46	43.94	2
PVIHIDQTGENVLVETLNHELYEAK	716.14	51.22	53.3	4	716.13	45.65	58.47	4
I(+57.02)GCFALSEPGN(+.98)GSDAGAAATTAR	732.36	32.69	43.61	3				
FALPSPEHILGLPVGQHIYLSAR					629.60	44.85	53.75	4
MLDLYSQISSVPIGYNHPALMK					826.45	43.87	65.12	3
KAQDEGLLSDVVPFK	549.31	38.56	48.53	3	549.33	31.89	46.4	3
TGQAPGFTYTDANK					735.84	12.88	50.86	2
SINPDEAVAYGAAVQAAILS(+60.00)GDK	774.08	57.83	25.96	3				
VIIFGLGK					423.78	27.23	33.42	2
FLLNLAVASK					538.35	31.82	50.48	2
Q(-17.03)VFFELN(+.98)GQLR	667.85	59.47	27.85	2				
VNN(+.98)SSLIGLGYTQTLKPGIK	702.09	38.60	28.47	3	702.05	30.82	39.16	3
M(+15.99)PC(+57.02)TEDYLSLILNR	580.96	51.82	25.95	3	870.94	46.30	35.93	2
MEIQEIQLK	566.32	28.13	35.1	2	566.34	21.27	40.05	2
DSLLQDGEFTMDLR					820.39	43.59	66.03	2
VYVQHLLK	500.32	14.88	32.39	2				
AYEAQTEPVLEYYR					866.44	24.48	63.47	2
AGLVFMPGTIQMK					696.86	36.41	50.66	2
DSLLGEPGLGFK	616.84	40.01	47.47	2	616.85	33.13	50.03	2
M(+15.99)AGHDINYLALSGVLSR	611.67	40.31	34.52	3				
AGLQFPVGR	472.78	25.17	42.14	2	472.79	18.53	38.89	2
LVPELDTIVPLESTK	827.49	47.63	35.33	2	827.48	41.16	51.19	2
M(+15.99)ILQQNYTSLR	691.88	23.11	35.94	2				
GVYVLMSGLDLER					726.40	40.80	52.73	2
TQLPWDSVGR					579.83	22.22	41.11	2
YYSFDYEGIAK	678.33	33.10	30.77	2				
VAFNFAAR	448.26	23.70	43.79	2	448.26	17.03	44.19	2
FGLYLPLFK					549.35	50.40	38.41	2
GVPALLSPELLFALAR					834.02	61.94	44.42	2
FAAVGFHR	452.75	14.24	39.15	2				
TLDGGLNVIQLETAVGAAIK	661.73	59.86	35.15	3	992.09	54.68	55.37	2

AAQLGFGGVYVQTDVGGAGLSR	708.38	43.80	94.06	3	708.38	37.22	75.97	3
FAAVGFHK	438.75	13.29	35.68	2				
YQETFSVIEK					622.33	17.57	43.06	2
DIPGLTDTTVPR	642.86	32.17	39.08	2	642.84	24.37	39.89	2
LLDIAC(+57.02)WTHR					428.90	25.45	35.36	3
EEIFGPVQQIM(+15.99)K	717.89	30.74	43.1	2	717.87	23.37	44.79	2
DFLAPGVR	437.75	23.66	23.32	2				
ELGLYLNTSGQAK	697.40	27.61	25.55	2	697.38	20.70	43.08	2
VVNVSSFVSVN(+.98)SLK	740.42	38.97	45.21	2	740.40	31.88	54.69	2
DYAVSTVPVVDALHLK	576.34	44.21	54.79	3				
LSSVDPSHAAVVNR	484.60	13.88	46.86	3	726.40	12.00	65.98	2
SLGQWLR					430.26	19.40	33.84	2
GLDTVVGLLADVVLHPR					887.53	62.12	44.63	2
DIDLSPIAIGFGK	673.39	53.16	56.38	2	673.36	47.36	56.82	2
VDLLPLYVGR	572.85	43.66	23.46	2				
GGIYAVLLK	467.30	32.86	30.5	2				
APALVNAAVTYSK	652.88	25.74	28.55	2				
GNIQPPNTEGNIGIR	790.43	22.28	52.66	2	790.43	15.64	59.37	2
SGLAMVVN(+.98)GSAEPSAQLLVSSIGVVGTAEENR					1048.59	57.72	39.09	3
IVFQEFR	469.77	25.34	31.26	2				
AEITTEDFLQEFGR	828.42	48.80	39.63	2				
KHTLSYVDIK	401.90	12.13	23.93	3				
GILLYGPPGTGK	586.85	29.70	53.72	2	586.90	21.75	41.63	2
SVTEFN(+.98)GDTVTSTMTK					859.89	19.88	55.53	2
FLFPEGVK	468.77	30.39	30.46	2	468.77	23.56	31.41	2
DPTEVTAIGAVEAAFK	809.93	53.85	53.74	2				
ILLANFLAQTEALMR					852.49	60.06	70.26	2
DIFQEIYDK					585.82	33.77	45.96	2
EFDALLINPK	580.33	36.28	31.35	2				
LEVELGN(+15.99)MQGLVEDFK	918.97	42.72	41.26	2				
KNNLGELINTLNAAK	538.32	35.10	38.23	3				
FFTGQITAAGK	570.82	22.81	62.77	2				
HVTVIGGGLMGAGIAQVAAATGH					696.72	39.31	58.93	3
SQFTITPGSEQIR	732.39	24.86	43.07	2				
LPPGPTPLPIVGNILQINIK					698.78	58.09	63.37	3
MLLLQDLSSYK	655.87	51.64	29.43	2	655.85	37.22	44.87	2

NPSTSLGPTLEPEEVVNK					956.01	23.84	61.15	2
LGFMSAFVK					500.30	32.11	40.64	2
AVPLYK					690.41	17.86	23.09	1
V(+27.99)VAGVANALAHR	603.36	39.44	32.67	2				
MVVPVAALFTPLK					693.43	50.63	61.19	2
GIPHLVTHDAR	405.90	11.78	33.29	3				
GTHM(+15.99)ENVYDFYKPDVTSEYPLVDGK	730.86	37.81	36.94	4				
GISAFLVPM(+15.99)PTPGLTLGK					908.01	45.01	35.77	2
QLYEEEIR					540.29	13.07	34.5	2
ETDLLLDDSLLFLFGNHR	706.72	65.75	34.33	3				
FLQEHLAPQAQEIDQSNEFK					791.41	23.47	56.33	3
YGPVFTLYLGSQR					750.89	38.07	79.08	2
SDTSFMFQR	559.76	24.05	50.33	2	559.79	18.26	55.37	2
ATIAGGGVIPH	496.79	19.18	29.82	2				
YVAAAFPSAC(+57.02)GK	621.32	19.15	37.37	2				
VHIVSFK	415.26	13.02	38.46	2	415.26	12.15	44.27	2
QSGAFLSTSEGLIFQLVGDATHPQFK					926.83	61.32	57	3
SSLNPILFR					523.84	25.01	31.58	2
LFEMAYK	451.24	24.28	35.47	2	451.24	17.91	35.75	2
VNSLAPGPISGTEGLR					784.44	20.47	42.53	2
A(+42.01)SGVAVSDGVIK					572.84	21.26	33.04	2
VDQVQDIVTGNPTVIK	575.99	33.38	43.25	3	863.48	25.95	67.08	2
YVEELDPSLLANFPLLK	654.37	64.25	31.33	3				
LNFLSPELPAVSEFSTSETMGHSADR					941.48	45.47	33.02	3
LFTVVAWDPR					602.39	35.85	54.04	2
IFPVETVVEEAIQC(+57.02)AEK	654.68	63.93	38.64	3	981.51	58.01	56.75	2
PVQGVAYVR	494.79	13.84	28.01	2				
IMDLLGDR					466.76	21.82	37.45	2
LEDTLWTGLTDTHVQ(+.98)MPMAITAENLAVK					1033.91	59.61	34.78	3
SLAFAYVPVELSK					712.39	39.02	55.89	2
ISEQFTAMFR					615.33	28.87	63.3	2
AEVESFATLFPLPGLPGF					946.53	65.21	45.18	2
THHQAVNFNIFEGMVC(+57.02)HGVPVVTISR					738.14	39.42	48.9	4
HVGDLGNVTADK					613.31	11.93	73.19	2
MIPAAHFFEK	595.82	24.44	23.05	2	595.84	18.29	41.62	2
IFVDIEK	432.26	22.83	38.46	2	432.25	16.85	33.71	2

DLVNM(+15.99)LFYHDR	480.25	37.86	33.66	3				
AFLPEMMK	483.76	30.70	28.21	2	483.76	23.88	36.69	2
AMGIMNSFVNDIFER	872.42	58.48	47.8	2	872.43	53.72	60.64	2
MVNHFIAEFK	412.56	22.91	26.71	3	412.56	17.12	52.92	3
NLNSDMDSILASLK					760.90	47.41	62.53	2
ENIQVFDFELTPEDMK					977.98	49.16	51.44	2
VPAINVNDSVTK	628.86	19.37	58.12	2	628.86	14.00	68.04	2
LAIGEGQQHQLGGAK	502.95	12.72	39.05	3				
LDPHLVLDQLR	440.27	36.87	48.8	3	440.26	29.71	48.56	3
LVSDEMVLELIEK	759.42	54.19	51.31	2	759.42	50.94	62.37	2
VLLTGLLDLQAQFPQLISR					709.09	61.36	78.07	3
IALGIPLPEIK	582.39	56.06	46.55	2	582.40	41.81	46.41	2
DVPYPPPLPPAIEAIQK	615.70	50.54	32.07	3				
AIATK					503.33	23.44	26.61	1
FLGVAEQLHNEGFK	530.30	30.01	35.61	3				
LYTLVTYVPVTTFK					823.00	43.28	65.82	2
HGEEVTPEDVLSAAMYPDVFAHFK	673.10	56.83	52.95	4	673.06	51.75	50.87	4
ISFTGSTATGK	535.29	14.06	36.91	2				
IKPHLMSQELPDDWDK					651.33	20.03	49.02	3
SNIDNMFESYIN(+.98)NLR					915.93	43.39	53.06	2
TFYGLHEDFPSVVVVGLGK	688.71	48.99	38.31	3	688.70	43.15	52.39	3
AQLADSFHLQQFFR					570.02	38.31	27.14	3
GLAPDLPEDLYHLIK	565.33	51.29	26.19	3				
FFESFGDLSF(sub S)ADAILGNPK					1038.05	36.46	20.79	2
C(+39.99)LDEFPNLK	559.77	50.17	23.43	2				
VAFITGGGTGLGK	589.35	26.17	51.54	2	589.35	18.39	50.77	2
KAQDEGLLSDVVPF					759.40	47.24	26.72	2
DHLLLATMEAM(+15.99)N(+.98)GGK	539.94	27.50	38.83	3				
IDNQC(+57.02)PSHLAIQENANTLAR					755.72	15.22	55.36	3
FILNLPTFSVR					653.88	48.25	37.66	2
VGTPLFADQADNIAR	794.42	31.82	33.33	2				
FEPTSILQTLSK					682.38	38.50	45.59	2
LAPEYEAAATR					596.33	12.34	58.31	2
ILMVGLDAAGK	544.32	30.24	47.06	2				
ILLAELEQLK	585.38	42.10	39.6	2	585.40	36.07	41.91	2
A(+42.01)DQLTEEQIAEFK					782.38	36.83	45.48	2

LIGTFNVIR					516.82	24.55	34.13	2
LIFPYVELDLHSYDLGIENR	802.77	60.06	26.72	3	802.75	54.77	46.25	3
ILQAVNFPFLVK					694.90	45.90	53.85	2
AAALDIAMIK					508.83	24.67	49.4	2
KHSLPDLPYDYGALEPHINAQIMQLHHSK					671.36	30.96	36.44	5
Q(-17.03)FYPDLIR	517.79	49.19	27.54	2				
M(+42.01)DDREDLVYQAK					762.86	18.80	39.71	2
STELLIR					416.26	13.97	21.06	2
FWSEYFTTDR					676.31	30.47	47.8	2
APLLGALQTLLSR					676.92	52.76	30.39	2
TGVVK					503.30	14.01	25.35	1
REPGSGFSFEFTEQQK	625.31	27.65	47.3	3	625.31	20.93	50.64	3
DLLPLVQC(+57.02)PTLIVHGEKDPLVPR					653.09	43.55	31.45	4
IGPALSC(+57.02)GN	444.73	18.21	28.11	2				
LAVLK					543.37	19.99	23.87	1
EVAFW(+13.98)NELLSR					689.34	45.60	30.13	2
VWPHGDY(+31.99)PLIPVGK					537.33	28.38	27.29	3
ANVIASALAQIPQK	475.29	40.29	49.9	3	712.41	33.34	53.61	2
ILQHVLQHAVAGDPQSVVAAIDSYSLEK	747.93	61.98	41.75	4	747.91	42.80	46.2	4
FLWPGFGENAR					647.34	36.72	33.02	2
EAFELVR					432.25	16.59	24.04	2
DIITAIR	401.25	23.90	23.47	2	401.25	17.78	32.23	2
TVVTGIEMFHK	421.24	24.73	25.48	3				
GLGTDED(+37.95)TIIDIIAHR	592.97	48.55	26.46	3				
TGTAEVSSILEER					696.36	20.66	65.53	2
ASFHTPFSHLGQSPEGC(+57.02)SSYTFPK					668.06	25.18	22.1	4
VFEVSLADLQNDEVAFR	651.35	54.06	47	3				
LVILMDPFEDDLK	774.42	56.53	34.95	2	774.41	53.24	50.48	2
LLGAR					529.34	24.19	24.19	1
EGFHFEETLTGFK	514.59	37.32	29.68	3	514.61	30.71	20.77	3
EPLGPALAHELR	434.92	23.53	46.58	3				
GALIFSPEGLPHR	465.28	31.02	31.13	3	465.28	23.94	54.18	3
AFFFTPK	429.24	29.57	24.51	2				
HFVTISSPLATQIPQAVGAAYAAK					814.48	38.94	32.67	3
LTPETLTR	465.78	14.28	28.29	2				
IAVIGQSLFGQEVY	762.42	56.36	31.57	2	762.41	51.99	42.83	2

EVTDEDLNDYFK					744.34	27.25	54.43	2
SLPMNYYTVFYHVQEQLPR					795.75	45.23	57.08	3
TEREDLIAYLK					450.92	21.51	44.28	3
A(+42.01)AAKPENLSLVVHGPGDLR	662.72	32.81	36.97	3	662.68	25.40	44.03	3
PFSVHYDPYTQR	503.93	20.89	29.74	3				
FLANVSTVLTSK	640.37	30.94	36.9	2	640.34	23.46	58.51	2
GHGIYLGMPGC(+57.02)LPAYDTLAGEFIR					870.11	51.72	32.79	3
FSPAGPILSIR	579.34	35.25	40.15	2				
PSFSS(sub A)ELKPK	560.31	12.83	26.58	2	560.31	11.96	30.1	2
MSTLLINQPQYAWLK					903.49	41.72	53.03	2
TAAYVN(+.98)AIEK					540.81	13.45	37.44	2
ISVNNVLPVFDNLMQQK	653.69	58.32	34.15	3	653.67	52.31	54.34	3
GVTIASGGVLPNIHPELLAK					662.72	35.86	52.91	3
HFVALSTNTAK	594.83	12.51	32.91	2				
FASFIDKVR					541.82	15.47	45.39	2
C(+39.99)FGGLFGYTER	645.31	61.17	28.76	2	645.28	53.86	28.09	2
LSILYPATTGR	596.36	28.84	37.69	2	596.37	21.40	40.65	2
AQAVHPGYGFLSENK	539.96	19.16	49.62	3	539.97	14.19	65.54	3
LVQAIIEN(+.98)SFLN(+.98)GEVIR	639.69	49.81	25.71	3				
TTGIVMDSGDGVTHTVPIYEGY	771.39	43.61	36.65	3				
FYYIDDPDGLK					673.31	26.94	47.74	2
LLAEPVPGIK	518.84	25.59	27.64	2				
TIPMDGNFFTYTR	781.88	41.91	30.17	2	781.88	35.39	57.35	2
ALDLAENEMPGLMHMR	609.97	39.27	44.75	3	609.98	32.60	64.83	3
Q(-17.03)SDLDLLAK					493.27	30.21	31.98	2
VDIVAINDPFIDLH	790.92	55.71	37.99	2				
GLYPAPLK	429.77	19.70	34.45	2	429.77	14.89	39.03	2
QAFQIGSPW(+31.99)R	611.32	29.59	24.67	2	611.33	25.30	33.59	2
FANPFPAAVR	545.32	30.48	46.13	2	545.32	22.54	43.38	2
LQLGPEILQK	569.86	32.20	39.5	2				
LVTLASHLPSDFTPAVHASLDK	580.59	37.59	33.8	4	773.77	31.03	37.61	3
KSDIDEIVLVGGSTR	530.31	27.98	41.55	3	530.32	20.99	44.15	3
FLEEHPGGEEVLR					756.38	14.18	58.88	2
DVFVAIVQSVK(+27.99)	616.85	47.45	34.25	2				
VMTIAPGLFGT(-18.01)PLLTTLPDK					689.74	56.79	25.47	3
FGLFTPGSR	491.27	28.92	32.46	2	491.29	22.08	23.93	2

TVYTFVGRPEDVVEGALNAAR	755.42	47.51	60.17	3				
MLVSSEDVLHSWAVPSLGLK					723.39	46.93	69.9	3
ALTVPELTQQMFDAK					846.46	41.93	46.86	2
QGAETVQELLEVAK	757.91	41.11	24.02	2				
LYIDSYEK					515.78	14.52	30.61	2
FDLMYAK					444.23	19.60	37.47	2
AQFGQPEILIGTIPGAGGTQR	704.40	44.89	52.84	3	704.39	38.56	49.92	3
WGDAGAEYVVESTGVFTTMEK					759.69	48.62	66.79	3
HIDSAHLYQNEEQVGQAIR	552.79	21.12	59.12	4	736.70	14.39	82.97	3
SYELPD(+37.96)GQVITIGNER	610.30	40.41	40.59	3				
IPC(+57.02)SALLK					451.26	14.00	25.5	2
LKEWVNPNLPFLLEDPVLSAIAK					869.51	58.77	46.33	3
ATGYPLAF	420.23	39.81	27.18	2				
TLDNDIMLIK(+14.02)					595.37	28.24	30.21	2
ASGPPVSELITK	599.85	23.56	56.13	2	599.90	17.30	61.84	2
ANLLLEGVENK					600.37	20.61	46	2
VSQEHPVVLTK					618.88	11.86	70.63	2
TY(+15.01)FPHFDLSHGSAQVK					616.96	20.50	39.43	3
VLVWPVEFSPWLNIK					914.03	60.95	58.39	2
VQPYLDEFQK	633.84	26.09	25.73	2	633.82	19.34	33.54	2
SALASVIMGLSPILGK					778.98	56.17	60.41	2
GVVQDLQQAVSK	636.36	31.20	47.55	2	636.35	24.38	46.23	2
FLP(sub A)NVSTVLTSK					653.37	53.99	23.21	2
SALTVQFVQGIFVEK					833.50	46.49	64.51	2
DSPSVWAAVPGK					607.34	21.78	58.43	2
LPYTEAVLHEIQR	523.64	33.14	55.62	3	523.67	26.37	64.1	3
SLAM(+15.99)E(+21.98)MVLTGDR	454.21	37.28	23.84	3				
LEC(+57.02)GGGPWGNK					587.77	12.42	41.7	2
ILPSVPEVDESTDFFK	911.97	49.17	26.96	2	911.98	42.73	37.44	2
IGPGVDVPAPDMSTGER					849.42	23.01	32.32	2
GFGFGLVK	412.75	32.02	25.51	2				
VMVQPINLIFR					665.36	43.55	38.54	2
HVPGASFFDIEEC(+57.02)R	555.28	33.03	56.62	3	555.29	26.32	53.03	3
ILAAPVELALVIMK					740.98	58.58	41.02	2
FTGSTEVGHLIQVAAGK					857.98	34.38	67	2
N(+.98)FLASQVPFPSR	682.37	41.47	34.86	2	682.34	39.62	41.8	2

YFHVVIAGPQDSPFEGGTFK	732.71	41.61	35.46	3				
LVFDEYLK	513.79	36.12	39.14	2	513.79	29.08	39.38	2
VMVAEALDISR	602.33	31.18	52.54	2	602.36	24.10	52.19	2
DLAPMGIR	436.74	23.41	31.99	2	436.75	17.18	30.04	2
FQATTSGPLIR	595.84	20.66	45.87	2				
LTFVDFLTYDVLDQNR	653.68	66.45	71.47	3	980.02	62.23	43.81	2
LAAVDHINAVIR	431.27	23.62	43.8	3	646.37	16.75	74.82	2
FVHDNYVIR	581.82	14.46	51.48	2	581.84	12.31	53.49	2
ALDLAENEMPGLMHM(+15.99)R	615.30	33.77	43.73	3				
IVVVTAGVR	457.30	17.23	37.87	2				
IPAQSVILLHAC(+57.02)AHNPTGVDPRPEQWK					759.42	25.25	28.58	4
LIKLDLK	421.78	27.12	22.8	2	421.79	20.91	26.97	2
GYSFVTTAER	565.79	19.10	56.12	2	565.82	14.56	61.21	2
LSAIQHDQPMKPLDR					437.99	12.01	61.68	4
YPVPLLTIYSATK					733.44	40.95	48.07	2
VLPSAIVQSVGVSAGR	513.97	35.22	51.04	3	770.44	27.88	76.83	2
AAIVWKPGGSFSIEEVEVAPPK					771.08	37.89	57.63	3
LEGLLAFK	445.78	33.23	22.81	2				
C(+39.99)LDAFPNLK					530.79	44.62	25.95	2
DLMADLK					403.21	19.66	34.47	2
LGEHNIDVLEGNEQFINAAK(+27.99)IITHPNFN(+.98)GNTLDNDIMLIK					901.66	55.70	46.7	5
LGALSGAGALGLASYGAHGAQFPDAYGK					874.14	37.53	40.5	3
AFIVLNPEFSSR	690.38	39.77	59.67	2	690.38	33.29	52.67	2
SVTEFNGDTVTSTMTK	859.43	25.94	52.93	2				
VAFTGSTEVGHLIQVAAGK	629.03	41.93	44.43	3	629.02	34.25	75.91	3
QATVGDINTERPGM(+15.99)LDFK	670.01	26.53	25.5	3				
A(+42.01)N(+.98)GYTYEDYQDTAK					841.35	20.35	23.72	2
LAVIK					543.37	19.99	23.87	1
FAKPVYPGQTLQTEMWK					675.36	26.56	71.04	3
TDEFQLHTNVNDGTEFGGSIYQK	867.43	35.41	44.11	3				
GHYTEGAELVDSVLDVVR	653.68	50.32	55.49	3				
VGLQVVAVK	456.81	20.61	47.51	2	456.78	15.38	43.58	2
SGLGELILPENEPGSSIMPGK	709.04	48.02	28.11	3	1063.09	41.60	29.58	2
LSQALGNVTVVQK	678.91	21.44	33.98	2				
AWRDPEEPVLLK					484.95	18.77	53.27	3

DMTLEGDDLILEIE					803.40	60.71	25.59	2
VVDLM(+15.99)VHM(+15.99)ASK	421.23	12.22	22.43	3				
SLPADILYEDQQC(+57.02)LAFR	680.34	49.96	36.42	3				
GVEEGATLVC(+57.02)GGK					638.82	12.87	40.37	2
ESLLPVAK	428.77	19.55	37.44	2				
DGFIDLMELK	590.82	54.36	39.89	2				
SDLELHPPSYPWSHR					607.68	22.14	25.41	3
VSLDVNHFAPEELTVK	600.00	37.36	52.71	3	600.02	30.36	57.07	3
EPSPDSGLLGLFQDQNP					907.45	54.83	37.33	2
SIVPTMHYQDSLPR	548.63	28.21	42.33	3				
LVVPGLLILDSIK					690.45	57.34	30.73	2
SLVNLGGSKSISISVAR	563.34	46.94	28.86	3				
GVFHGIENFINEASY					848.92	44.01	32.89	2
GTPLDTGVPLER					627.85	18.99	54.81	2
LADLLEQSLE(+21.98)ELAQAESK	670.35	63.78	27.84	3				
HIYLLPSGR	528.31	18.21	28.16	2	528.35	14.04	31.26	2
IFFSLLR	448.28	42.85	25.09	2	448.29	37.04	33.62	2
TYFPHFDLSHGSAQVK	459.24	28.01	63.07	4	459.25	21.38	68.44	4
FLPITPQFVTEVIK					816.48	52.02	30.9	2
PSFPASSPYVTTVGGTSFQNPFR					815.40	42.67	60.63	3
LGPNYLQIPVNC(+57.02)PYR	602.00	40.79	31.15	3	902.47	33.64	24.6	2
LYHGTPFR	495.77	12.64	23.31	2				
EIEYEVVR					518.78	14.12	46.1	2
VMLPANSFQGK	596.33	22.52	33.96	2	596.37	15.88	41.98	2
LWLTSLRPELVRPALEK					674.38	34.78	40.13	3
ESGYNMIHFTPLQTLGLSR					722.05	43.05	50.73	3
EQAGGDATENFEDVGHSTDAR					735.99	12.62	74.27	3
HGAGLFDVTR	536.79	17.46	48.21	2	536.81	13.87	57.75	2
DMDLVEVNE(+21.98)AFAPQYLAVEK	768.40	57.91	29.24	3	768.36	52.89	32.3	3
SFVNDLFER	563.79	37.17	28.06	2	563.82	30.41	30.99	2
AAFIGIGLPEPK	606.86	39.52	48.74	2				
APGGHFTLQEVEEALAR	609.00	42.59	27.02	3				
QYSVGDAPDYDR					693.30	12.91	54.7	2
PSFAVESIEDALK	703.38	53.17	36.7	2				
HQESLDLNNPQDFIDYFLIK	817.11	62.95	43.74	3	817.10	57.70	58.83	3
GPLLVQDVVFTD(+14.02)E(+14.02)MAHFDR	739.71	54.36	28.43	3				

LLVVYPW					445.26	50.70	28.24	2
SLNILTAFQK	567.84	40.41	34.92	2	567.88	33.90	47.11	2
GITHIGYTDLPSR	477.27	21.22	41.23	3				
LLMYNTEDPPGSEALR					903.45	27.16	56.72	2
GQYFGELALVTNKPR	564.99	32.55	55.83	3				
GAGVTLNVLEMSSEDLEK	946.49	46.41	28.48	2	946.48	41.90	57.93	2
NFDDAIAEGVTFIK					770.39	45.58	41.82	2
VLVC(+57.02)GAGPIGLVSLLAAK					869.55	54.59	52.5	2
YPQLLSGIR	523.82	31.85	36.22	2	523.84	23.18	42.44	2
EIVTNFLAGFE(+21.98)A	666.84	62.52	25.58	2	666.83	57.63	28.73	2
YNLENFMVINSVAFDHADPSIFTVLTAK					1052.90	61.55	47.71	3
SGSPANFAVYTALVEPHGR	658.35	37.99	42.47	3	658.34	31.50	69.41	3
EFTPVLQADFQK	711.86	34.58	55.5	2	711.87	27.63	65.71	2
NLALELAESNVR	664.88	32.98	63.41	2	664.85	26.87	59.07	2
MLALGITGPEGHELSRPEAVEAEATLR	712.64	38.26	34.36	4	712.64	31.90	46.03	4
HNVMISTEWAAPNVLR					613.35	29.57	50.6	3
VEILANDQGNR					614.82	12.17	51.62	2
QALTNIGEILK	600.37	35.04	37.42	2	600.39	28.01	51.51	2
EAFQK					622.36	52.43	22.48	1
SFTGNFIIDENILK	805.95	49.64	28.53	2	805.95	43.77	54.65	2
FADIFAK					406.24	19.77	32.16	2
LLSHSLLVTLASHLPSDFTPAVHASLDK					743.18	48.47	70.62	4
IVGGNAAQLAHFDPR	522.63	24.70	31.83	3	522.64	17.53	39.84	3
AFMALIDELIAEQK					796.43	57.39	72.16	2
TLEVNLLSYVVLSTAALPMLK					759.11	64.51	43	3
IVLNPEFSSR	581.33	24.83	29.12	2				
LHEAVFLR					492.80	12.83	40.27	2
KLDGEASDLHEQIAELQAQIAELK	663.13	52.61	32.39	4				
ALIDQEVK					458.27	12.65	29.17	2
DPLLLEEQLTADEILIR					991.09	59.81	59.19	2
FVGIKDEDQLEAFLK	584.67	43.84	23.98	3				
PVTLELGGK	457.28	18.87	39.11	2				
EGNDLYHEMIESGVINLK	687.69	47.37	60.57	3	687.68	41.04	64.86	3
SNMIASALAQIPQK	491.28	40.68	34.35	3	736.42	33.55	66.83	2
LDQPDPGAVAAAAILR	789.45	42.89	46.02	2				
VAGALAEAGVGLEEITDR	591.00	44.10	84.48	3				

IGGVQQDTILAEGLHFR	618.69	38.77	61.65	3	618.67	32.33	74.01	3
MVEFAGLQDK	569.30	25.64	47.67	2				
IVYQDLEPVILTIEEAIQNK	776.78	66.82	61.73	3	776.79	64.23	69.02	3
NLQNLLILTAIK					677.41	46.43	52.79	2
EVAFWNE(+14.02)LLSR					689.34	45.40	23.89	2
IKNEIDSTLTFR	479.61	23.54	39.94	3				
SLEDALSSDTSGHFK					531.94	18.49	51.78	3
DNHLLGTFDLTGIPPAPR	645.36	47.97	52.99	3	645.34	41.13	41.85	3
NYSWVDIITISK					719.90	45.19	43.28	2
LPVQATPEGLDAAFVGVPLDIGTSNRPGAR	755.42	52.42	59.68	4				
LFFLQVK					447.80	31.40	24.39	2
SAYALGGLGSGLC(+57.02)PNR	796.90	32.62	43.28	2	796.89	24.77	49.27	2
TMILGYWDIR					634.33	52.53	35.82	2
QYFQSSFPAR	615.81	22.50	48.25	2	615.80	16.28	50.07	2
DYIDC(+57.02)FLSR	594.79	42.70	32.3	2	594.81	35.79	36.53	2
SGPFAPVLSATSR					645.35	22.17	40.76	2
VVLIGGKPDR	527.33	12.51	32	2				
F(sub L)PYTEAVLHEIQR	534.95	24.93	23.32	3				
SFGLPSVGR	460.26	26.72	23.2	2	460.28	19.61	26.74	2
DGSIDLVINLPNN(+.98)NTK	864.47	46.68	32.85	2	864.45	39.32	46.97	2
VRPPVQIYGIEGR	495.30	25.74	35.12	3				
GGAPDTAALDELGLSK					757.89	29.04	51.48	2
PSTGAVPFQFLR					660.34	33.01	28.6	2
VLASPLQR	442.28	15.28	37.4	2				
IAVLK					543.37	19.99	23.87	1
GVPLVYEAFNWR					725.89	45.10	68.12	2
TTIQGAEISAPIC(+57.02)IAPTGFHR	747.41	38.77	39.13	3	747.41	32.09	57.59	3
SVRPGVAIADF	566.32	29.64	34.83	2				
LGATTHVFVVDC(+57.02)SNR	559.30	20.31	50.28	3				
VVLPMEMTIR					594.88	31.27	37.17	2
DFTATFGPLDSLNTR	827.92	49.69	56.66	2	827.92	43.66	59.43	2
IIPGVVDGIFLPK	684.42	49.72	37.67	2	684.41	43.48	64.88	2
YTISIPETLKPR	473.29	30.89	45.5	3	473.30	22.74	52.59	3
DSADGFLK					426.72	14.05	41.85	2
ALPGR					513.33	68.23	21.19	1
AVEHLDDLPGALS(+27.99)ELSDLHAHK	479.86	39.57	47.33	5				

VFEFGGPEVLK	611.34	36.88	58.01	2	611.36	30.19	50.69	2
FDVSGYPTIK	563.81	28.70	49.46	2	563.82	21.20	48.61	2
SFITSISNK	498.78	20.21	23.38	2				
PVIGPQYLLEK	628.87	35.31	34.84	2	628.89	28.70	42.73	2
DFTPTDMAEFAAR	736.35	42.25	50.65	2	736.33	35.03	71.65	2
ASINLLANHLK	597.37	22.24	33.03	2				
VLILGSGGLSIGQAGEFDYSGSQAVK	851.79	50.79	82.57	3	851.79	44.74	89.6	3
PGLHLFGLPLSDYYAYSPVR					755.75	50.84	39.45	3
DLEKPFLLPVESVY	824.96	57.60	24.4	2				
LLGGVTIAQGGVLPNIQAVLLPK					757.80	58.14	68.36	3
AQLGVQAFADALLIIPK					884.56	59.35	22.9	2
ILYLFYEDMK					667.83	40.16	31.7	2
IDPLAPLDK					491.29	25.17	36.54	2
DESNYLDDALM(+15.99)R					729.32	26.32	47.44	2
YYGYTGAFR	549.27	22.14	47.77	2	549.30	16.04	54.55	2
EAILAIHK	447.78	13.44	34.89	2				
NLASVGLNLIASGGTAK					793.45	38.29	73.09	2
VNNSSLIGLGYTQTLKPGIK					701.72	27.12	65.66	3
ASAEDVVVVHGR					413.56	11.95	60.28	3
QLDSIVGER					508.78	13.28	42.32	2
IQEGVESLAGYADIFLR	627.68	60.28	43.22	3				
DVAVSYYHFYR	473.91	28.46	39.9	3	710.35	21.01	60.14	2
SVPALANIIK	513.33	33.83	29.67	2	513.36	26.23	20.95	2
NIDYETVAINLTK	747.41	40.71	56.09	2	747.39	34.73	70.04	2
ITTHYTVYPR	417.57	13.94	45.99	3				
GPAGLSSALLR	521.32	26.20	44.48	2	521.32	19.01	31.85	2
LGIEGLSLHNVLK					464.97	31.17	46.12	3
FIEQPEDLDK					617.31	14.67	40.87	2
GIHSAIDASQTPDVVFASILAAFSK					849.16	62.08	74.17	3
NVDPETMLLPYLR					780.92	50.59	64.19	2
LNLEDVQPHDLGK	493.28	25.73	33.87	3				
QGAAIGIPYFTAYR	764.41	43.84	39.11	2	764.43	37.27	41.97	2
LDLDGIIAEVK	593.35	49.13	42.72	2	593.37	44.11	47.64	2
LNRPLTLSEK	585.85	12.51	24.58	2				
YSVDIPLDK	525.29	28.32	35.65	2	525.30	21.04	25.41	2
PEYMLPVHFYGR	503.60	39.32	24.6	3				

FLTSDGTTIDK					599.33	13.78	33.59	2
AASIK					489.31	33.14	26.03	1
DLVPDLSNFYAQYK	836.93	53.51	34.93	2	836.94	47.06	52.64	2
LNDGHFIPVLGF	664.87	54.21	26.28	2	664.84	48.21	31.45	2
INEAVELMK	523.80	20.64	43.44	2	523.80	15.48	51.22	2
NMGLYGER					470.22	12.53	37.67	2
NEQIQFTEEEELLSR					932.96	33.44	61.91	2
LLDAVDTYIPVPTR	786.95	45.58	51.89	2	786.95	38.74	55.65	2
EQQIVIQSSGGLSK	737.42	19.10	53.48	2				
YSALFLGMAYGAK					696.37	36.55	49.26	2
MLVVLLQGTR					565.39	28.52	51.99	2
VFIPHGLIMDR					433.27	24.51	37.37	3
YIAELLAHK	529.32	37.71	33.77	2	529.35	30.15	39.34	2
DPQLVPILIEAAK	703.94	51.14	44.22	2	703.92	44.99	47.16	2
AMGEQAVALAK	544.81	16.33	58.35	2				
VVFQEFR	462.77	22.11	36.22	2	462.76	16.59	26.82	2
VNPTVFFDIAVDGEPLGR	649.36	59.15	28.66	3				
GTTITSVLPK	508.81	22.61	33.9	2	508.81	16.43	37.36	2
AVQM(+15.99)GM(+15.99)SSVFFNK	739.35	19.95	30.41	2				
AQFEGIVTDLIR	681.40	46.81	44	2	681.37	40.51	53.41	2
EGWLDFR					461.74	29.88	36.36	2
VIQIVINR	477.82	23.13	22.92	2				
GQILTMANPIVGN					664.36	37.16	59.61	2
EAEAVIPD(+57.02)HCVFASNTSALPIGEIATVSK	1009.54	48.48	36.31	3				
HLTDAFLDEVK					644.34	22.33	63.43	2
MAAAR					519.33	63.70	21.22	1
DYFFALAH	492.25	43.10	35.67	2	492.25	35.86	32.99	2
LLIYTEFGK	542.32	34.46	42.64	2	542.35	27.90	36.94	2
QHGIPVPVTPK	586.86	14.35	41.81	2	586.87	12.27	61	2
FTGLESVFR	528.29	35.65	35.41	2	528.33	29.22	40.29	2
IMGT(+27.99)SPLQIDR	629.85	29.15	35.39	2				
QVAEVFTGHLGK	429.25	19.56	32.17	3	429.27	14.31	38.51	3
NFVINVVNR	537.82	28.17	41.62	2				
LNDGHFIPVLGFGTYAPPEVAK	781.43	48.80	59.35	3	781.41	42.95	53.17	3
ILQTALDLLDR	635.88	44.10	28.14	2				
AVGMPDDIIQK	593.83	25.37	50.19	2	593.80	18.34	50.89	2

LPPGPTPLPLLGN					643.36	42.67	26.25	2
EVLASDLVVK					536.84	19.39	36.45	2
ALEDNM(+15.99)SLDEIMK					762.85	24.67	58.07	2
M(+15.99)EFGTAGLR	499.25	15.94	25.27	2				
SLLALEAFHVSHPC(+57.02)R	435.00	56.63	36.28	4	435.00	22.92	40.83	4
KPMVLGHEASGTVVK					518.29	11.89	76.12	3
IQDSIEITGTFK	676.37	30.55	28.09	2				
IAFAITAIK	474.32	33.60	28.35	2				
GTTITSVLPKPGLVASR					566.40	23.60	54.12	3
MVSDLIASGIQPLQNLSVLK					709.42	54.97	77.79	3
EVHVVPWNHDFTK					536.64	16.36	55.94	3
PDDLLISTYPK	631.35	30.77	32.2	2				
LLVSGFWGVAR					602.88	37.62	42.87	2
AVLDELVMR	523.29	34.76	45.54	2				
TAVFVNISR	503.80	22.31	41.22	2	503.80	16.40	46.91	2
EMVELPLR	493.79	30.00	33.92	2				
TGNLHGQPVSFLLK	504.30	27.40	62.22	3	504.32	20.27	74.01	3
GIGISVLEM(+15.99)SHR	438.91	23.07	33.28	3				
VLLILC(+57.02)GGDD	537.79	45.34	30.24	2				
GLIAR					529.36	24.61	23.31	1
GVQDVLEILK	557.35	46.30	39.41	2				
ALVLISNVEK	543.35	26.68	39.76	2	543.35	20.02	41.48	2
V(+27.99)ATVSLPR					435.78	13.40	26.33	2
YLTVAAVFR					520.34	28.73	49.35	2
VAQVAEITFGQK	645.87	25.53	49.15	2				
AASLK					489.31	33.14	26.03	1
AIAAR					501.30	61.57	23.61	1
LAQSN(+.98)GWGVMVSHR					514.96	17.07	57.5	3
NFSDVHPEYGSR					704.32	12.04	58.13	2
IEPSVNFLK					523.84	22.54	26.21	2
M(+15.99)FLLQGAQMLQMLEK					898.97	52.85	41.07	2
PHGDYPLIPVGK					646.84	27.87	51.47	2
TLVYGGIFM(+15.99)YPANK					795.43	33.61	35.57	2
LSVQGEVSTFTGK	676.87	30.71	26.28	2				
LPLQDVYK	488.29	22.32	36.53	2	488.29	16.39	43.59	2
LLQDFFDGR	555.80	38.32	40.55	2	555.82	30.91	45.03	2

IVTVNSM(+15.99)VGIIAAPLSTGYC(+57.02)ASK					790.08	37.66	37.5	3
YLGLQDLAGK	539.32	31.30	48.63	2	539.33	24.07	45.9	2
SLGIETLGGVFTK	661.38	43.95	37.19	2				
LEGSEVQLLEYEASAAGLIR	716.72	59.17	56.26	3				
ESYSIYVYK	576.30	24.69	38.89	2	576.33	18.17	46.66	2
VAIPVPGLKPEYLTLLVSGTTAYISLK					948.60	61.81	24.32	3
LGDPAEYAHLVQAIIENSFLN(+.98)GEVIR	718.16	67.03	25.28	4	957.22	63.51	22.53	3
TLLVADPR	442.75	17.84	31.64	2				
LHFFMPGFAPLTSR					541.01	41.04	57.73	3
QPGAR					528.30	51.14	24.07	1
MALIGLGVSHPVLK					478.99	26.53	41.11	3
TAVDSGIALLTNFQVTK	593.36	53.61	74.76	3	889.50	46.42	74.56	2
TVFEDDPFLK					605.84	30.50	43.58	2
VIPLFIPQCGK(+57.02)					636.33	31.33	30.7	2
TADGIVSHLK	520.80	13.04	53.48	2	520.80	12.05	52.9	2
LIDDMVAQAMK	617.83	35.33	54.23	2	617.82	27.83	69.29	2
YFPTQALNF	550.78	48.60	30.06	2				
IITHPNFN(+.98)GNTLDNDIMLIK(+14.02)					766.74	38.64	50.63	3
GLTLSWIGDGNNILHSIMMSAAK					810.44	59.31	57.98	3
SPPEPWGWPLLGHMLTLGK					706.06	56.26	36.41	3
YHFPVQFEDVYTALK	619.66	47.61	47.92	3	619.64	41.78	76.94	3
MFGVPVVVAVN(+.98)AFK					739.92	47.43	35.2	2
IMDPNIVGSEHYDVAR	605.98	26.55	47.48	3	605.98	19.43	52.13	3
DPLTITVR	457.77	23.94	36.2	2				
GAAQNIIPASTGAAK	685.40	16.52	46.78	2	685.36	12.77	49.98	2
SHEIVLVAYAGLGSQR	567.32	48.15	55.4	3	567.37	25.13	72.75	3
GLTLSWIGDGNNILHSIM					971.01	59.62	22.54	2
WETPYMHALAAAAAASR					582.69	30.17	61.4	3
ESVNAAFEMTLAEGVK	848.44	42.92	37.85	2	848.42	37.72	61.45	2
GTADFFAVQYYTTR					820.41	36.22	67.21	2
IKPTRPIGLFMYYENNPEK					770.76	25.56	51.85	3
S(+42.01)GALDVLQMK	552.31	45.81	34.15	2				
FPSFIHSQK	545.80	53.34	29	2	545.82	34.70	44.09	2
EHALLAYTLGVK	438.93	28.39	43.98	3	657.87	21.63	63.86	2
LSHVISQHQALLGK	510.97	13.58	52.14	3				
VDVLENQTMDTANELAILC(+57.02)YNPEFEK	1019.51	59.39	29.18	3				

KEGGLGPLNIPLLADVTR					621.70	45.53	33.87	3
TGLLSGLDIM(+15.99)EVNPSLGK	930.50	48.15	49.31	2				
GVPTGFVLPIR	578.34	40.55	25.72	2				
IRLENEIQTYR					717.91	14.29	49.91	2
QLEQVIAINLLPSR					797.49	42.34	53.13	2
VWPHGDYPLIPVGK	526.64	51.15	54.71	3	526.66	27.55	58.59	3
QDFIQHFSQIVK					497.30	27.89	54.48	3
C(+99.07)DFTEDQTAEFK					766.82	25.82	40.69	2
LEAGTVFVNTYNK	728.40	27.08	68.22	2	728.39	19.86	62.63	2
LDLETMSTR					533.29	16.42	45.91	2
VMQSSSDAIYLAR					720.86	16.48	57.38	2
TLNEALEFAK	568.32	27.14	35.04	2				
VVLDDKDYFLFR	510.63	40.48	50.64	3	510.62	33.88	55.38	3
VALLQFGGPR	529.32	31.54	32.74	2	529.33	24.65	34.69	2
FASC(+57.02)FYGPFR					626.31	27.74	43.04	2
GAGAFGYFE(+37.96)VTHDITR	593.62	36.02	33.97	3				
AGLGSGLSLSGIVHQELSR	627.69	57.57	24.63	3	627.69	36.79	69.63	3
LIFLEN(+.98)YR	534.81	38.26	22.75	2				
LAADDFR	404.21	14.56	26.2	2	404.20	12.52	40.67	2
MF(+31.99)LSFPTTK	552.28	32.67	22.74	2	552.32	28.87	27.9	2
TVLGSPE(+21.98)VLLGILPGAGATQR	691.07	58.57	24.94	3	691.05	52.69	32.27	3
VVGNPFDSR	495.77	18.54	49.05	2	495.77	14.16	51.23	2
IALVITDGR	479.30	24.79	23	2				
KTFPTVNPSTGDVIC(+57.02)HVAEGDK					791.40	19.75	41.28	3
PNLPFLLEDPVLSAIAK	919.05	66.04	37	2	919.03	58.70	56.42	2
VEVYLDGGIR	560.82	26.32	44.23	2				
ALQ(sub E)DNMSLDEIMK					754.38	33.78	21.71	2
TIAPALVSK	450.29	15.88	25.17	2	450.28	13.02	33.93	2
DPFLNALGK	487.78	32.61	47.55	2				
VDEVGGEALGR					551.28	12.57	58.86	2
VNQIGSVTESIQAC(+57.02)K					817.42	17.62	43.94	2
APM(+15.99)FSW(+31.99)PR	520.25	22.29	24.04	2				
KVDFVN(+.98)GLHTLC(+57.02)GAGDIR					494.03	24.10	45.43	4
GYPTLLWFR					576.86	43.31	36.29	2
SLANVILGGYGTTSTAGGK	589.65	39.00	38.69	3				
AVAGIFNAK	445.77	18.13	31.54	2				

LDAFLVLEQLR	658.89	56.65	39.71	2	658.88	51.52	52.37	2
VVASGFDFAN(+.98)GISM(+15.99)SPDR	943.95	36.84	47.83	2				
MPEEMLAEK					539.26	13.44	54.76	2
VADLSPVPVVLY	636.38	55.29	28.16	2				
GTTITLVLK					473.30	19.99	31.32	2
M(+15.99)FLSFPTTK	544.29	30.63	34.69	2	544.33	26.96	37.48	2
EAIELIK					408.25	17.20	30.34	2
LASPEEIALLPR	654.89	37.93	27.53	2				
ITLPVDFVTADK	659.89	43.50	34.26	2	659.88	36.86	42.45	2
AN(+.98)NTFYGLSAGIFTNDIDK					1031.52	51.36	48.62	2
ALEDNM(+15.99)SLDEIM(+15.99)K					770.85	15.32	45.34	2
AQFLVEK	417.75	14.79	32.51	2				
TFDIQLGD(+21.98)IVDEIQR	595.31	57.85	25.54	3				
VKPIRPIGIFSGYVDNLEK					715.76	32.87	51.8	3
VVSQPLNYR	538.31	14.54	24.37	2				
AVVSIQPAWINVLR					783.49	45.66	52.37	2
NRPTSITWDGLDPGK					828.95	19.11	45.75	2
VIEGM(+15.99)DVVR	517.29	14.06	35.29	2				
LK(+130.12)EWVNPNLPFLLEDPVLSAIAK					912.86	63.27	27.32	3
IAC(+57.02)PLVAAYSASK					675.87	20.54	44.08	2
GYFIQPTVF	536.29	51.57	26.41	2	536.33	46.11	28.66	2
VFQQQLEVFVK	682.89	36.20	59.55	2	682.88	29.93	55.48	2
TTGIVM(+15.99)DSGDGVTHTVPIYEGYALPHAILR	800.69	43.41	26.09	4				
C(+57.02)EFQDAYVLLSEK	801.40	42.29	49.74	2				
IYTFNQSR	514.77	14.79	40.01	2				
VGLNLPNIGVR					576.41	30.09	32.74	2
DC(+57.02)LIPMGITSENVAEQFGISR	779.74	59.38	29.96	3	779.72	54.15	45.78	3
SNYELNDILSQLGIR	578.99	64.51	41.41	3				
SVSLFASPWTSPTWLK					904.02	52.44	40.05	2
SDDHVVN(+.98)GSLVTR					467.24	12.46	49.31	3
AISEHVEDAGVHSGDATLMLPTQTISQGAIEK	827.20	36.72	23.89	4				
APMLNPTLGVHEADLLK	607.03	37.66	55.51	3	607.01	31.31	55.77	3
VAHILNLSPPLNLNPLWFK					729.44	53.22	43.74	3
AAAVLPVLDLAQR	668.91	43.51	44.82	2	668.89	37.18	30.7	2
FGEGIHTAFLK	407.23	25.58	32.69	3	407.24	18.76	35.6	3
PILLQIAESAYR	687.41	45.96	36.39	2	687.40	39.02	35.12	2

IITHPNFN(+.98)GN	564.29	17.93	28.61	2	564.30	13.55	37.94	2
GGIMLPEK	422.75	16.71	40.18	2	422.75	13.56	34.71	2
ALQASALAAWGGK(+14.96)	629.84	21.00	30.34	2				
LQGIGEEVVK					536.33	14.16	39.5	2
AHHLPQFDPK	595.33	11.85	29	2				
KEYWENLQIASGR					531.98	20.52	40.93	3
E(+42.01)EEIAALVIDNGSGMC(+58.01)K					939.95	56.40	23.16	2
LSLVVHGPGDLR	421.59	25.10	31.41	3				
ADFGAQVVR	481.77	16.07	22.46	2				
LHTGR					583.32	69.28	22.45	1
TVLIMELINNVAK					729.42	53.68	58.92	2
LIGLTTIFSATALGYLAHK					664.03	57.03	61.85	3
LPGGIDTHTHMQFPF					849.43	45.31	20.72	2
GSLPVADNINQGLGIVFSN(+.98)GEIWK					843.80	59.04	30.15	3
THILLFLPK					541.38	25.52	56.95	2
A(+27.99)VEHLDDLPGALSELSDLHAHK	599.57	48.12	26.6	4				
SPLQELSPAQEEALR					834.45	23.41	41.46	2
NSN(+.98)VGLIQLNRPK					727.41	15.73	41	2
VSLDVN(+.98)HFAPEELTVK	600.34	37.73	25.41	3				
THLPGFVEQADALK	509.28	28.25	47.1	3				
SQIHDIVLVGGSTR	494.63	20.50	43.33	3	741.42	14.89	59.66	2
IITHPNFN(+.98)GN(+.98)TLDNDIMLIK(+14.02)					767.08	41.00	44.29	3
DDN(+.98)GKPYVLPSVR	487.60	24.11	44.95	3				
EGTVTAGN(+.98)ASGVSDGAGAVIIASEDAVK					849.76	39.22	40.23	3
GVANALAHR	454.76	15.47	30.44	2				
AATITPFR	438.76	17.22	28.67	2				
VIGGDDLSTLTGK	638.35	28.85	56.54	2				
VVDLMVH	406.73	20.89	24.98	2	406.73	15.97	33.23	2
LIFLENYR	534.31	44.23	35.07	2	534.33	27.67	37.83	2
IIFGK	577.37	16.35	27.2	1				
SLDLDSIIAEVKAQYEDIAQK					783.77	62.53	65.05	3
PLSIEEVEVAPPK	704.41	33.22	35.18	2				
FYEQFSK	474.74	15.74	22.62	2				
FC(+57.02)ALNWEDQSAVVLATVDK	722.72	54.80	31.58	3	1083.58	49.28	38.93	2
LQEYITMFAK					622.32	30.10	57.16	2
DAGTIAGLNVLR	600.36	36.98	51.87	2	600.37	29.35	48.05	2

VKENIDILEELK	481.63	33.28	44.94	3	481.63	26.60	40.63	3
SSVFDLFR					485.77	40.27	25.55	2
MPEFYNR	478.72	17.78	31	2	478.73	13.95	34.05	2
VLLPEYGGTK	538.81	21.65	31.28	2	538.81	16.00	37.49	2
AVEHLDDLPGALS(-18.01)ELSDLHAHK	470.66	38.89	39.23	5	470.67	32.42	45.91	5
FYGPAGPYGIFAGR					736.89	35.44	67.93	2
SDTSFM(+15.99)FQR	567.76	18.03	35.63	2				
ILEFFGLK	483.79	45.44	40.23	2	483.79	38.87	39.54	2
SPPEPWGWPLLGH					736.87	47.82	46.83	2
VLVIGLGNSGCD(+57.02)IASELSHIAEK					794.77	47.95	41.85	3
Q(-17.03)TPALVVLR	490.31	42.83	31.54	2				
LLPDDMR					430.24	13.47	28.59	2
GTTVVTSLSSVLHDEK	558.31	31.76	22.64	3				
AM(+15.99)GIM(+15.99)NSFVNDIFER					888.43	38.54	32.84	2
Q(-17.03)ALTNIGEILK	591.85	52.17	34.87	2				
ALLDSLQLGPDALTVHLINEVTK	820.82	65.78	23.04	3	820.81	57.82	30.25	3
YLLGTSLARPC(+57.02)					625.83	22.76	26.44	2
AVASLNTPFMPSNPK					787.40	24.44	67.99	2
Q(-17.03)DEVYYDSSILTPLLLR	1004.55	66.79	30.78	2	1004.52	62.66	34.91	2
DPNPM(+15.99)HIDATFNIIGPGLVLSNPDRPC(+57.02)HQIDLFK	772.44	53.21	22.74	5				
SVNVKPLVTHR	417.26	11.73	54.69	3				
HVGDLGNVTADKNGVAIVDIVDPLISLSGEYSIIGR	927.52	65.22	46.2	4				
ADDGRPFPQVIK	448.25	19.72	34.15	3				
GPFLLGIR	436.78	34.41	32.83	2	436.79	27.80	39.32	2
IAFGGEMDEATR					648.79	16.80	50.29	2
FGLIPEEFFQFLYPK					938.02	63.55	46.3	2
EGLEAAGLK					444.25	12.66	38.89	2
LSWWEMQIK					610.84	37.09	51.11	2
QLAVLGAGLM(+15.99)GAGIAQVSVDK	672.06	45.62	36.49	3				
QVFLSTR	425.75	14.59	27.49	2				
VHQILEGSNEVMR	504.60	15.90	51.5	3				
IPYSVVR	417.26	16.56	25.49	2				
ASLNMFNK	462.74	18.26	54.95	2	462.75	14.27	52.64	2
FYTEDGNWDLVGN(+.98)NTPIFFIR					840.41	59.22	46.33	3
C(+39.99)LYSLINEAFR	684.85	66.81	35.21	2				
ILLMDLNK	480.29	31.64	36.13	2	480.31	24.83	38.05	2

MNLFQAVTSALDNSLAK					911.99	61.83	52.29	2
RPDFQTTGQWDVITEK					640.99	23.44	60.58	3
TQGQPFDPTFVVGFAPY					935.99	58.97	32.42	2
AIPPFDIQIIDDK	742.92	49.08	29.14	2	742.91	44.32	50.09	2
GSFPSVWNPITYLDHNN(+.98)LWR					806.42	57.30	31.39	3
ITEIYEGTSEIQR					769.89	15.85	70.73	2
LILPHVDVQLK					425.62	27.58	48.11	3
IVGLVGVDQFLVK	693.91	50.03	35.41	2	693.92	43.78	51.44	2
LDM(+15.99)PYLDAVVHEIQR	605.66	43.43	40.28	3				
YLSAQKPLLDDSQFR	594.33	27.18	42.67	3				
GSIYSLNEGYAK	651.33	21.81	46.21	2	651.33	15.78	52.78	2
VMIGEHIDEKPLPTLEHPIIPADYVAIK	628.57	43.42	49.95	5	628.54	37.18	50.77	5
TIVAINKDPEAPIFQVADYGIVADLFK					983.24	60.44	65.05	3
ELETLLGFPLR	644.38	52.58	39.34	2	644.39	46.73	49.34	2
AMGAAQVVVTDLSASR	788.44	34.87	56.38	2	788.41	27.60	77.05	2
ADQPIDADVTVIGSGPGGYVAAIK	772.09	46.69	47.56	3				
VVVAENFDEIVNNENK					916.96	28.44	71.97	2
PM(+15.99)PTPGLTLGK	564.32	29.28	26.47	2				
N(+.98)GVAIVDIVDPLISLSGEYSIIGR					834.48	65.34	40.63	3
PTGGAGAVAM(+15.99)LVGPEAPLVLER	707.74	48.09	24.98	3				
LGETYKDHENIVIAK	433.25	15.61	67.75	4	433.24	12.24	55.76	4
LNPNFLVDFGK	632.35	50.89	35.82	2	632.34	38.19	54.81	2
GLPDNVSSVLNK	621.86	29.08	39.96	2				
ILVATNLFGR					552.36	30.55	36.43	2
AFLEEFGAEPELAVSAPGR	664.02	48.59	65.99	3				
KYVLGNPLTPGVSQGPQIDKEQYEK	697.89	28.37	31.44	4	697.87	20.93	52.07	4
IGAEVYHNLK	572.32	13.10	53.62	2				
DFISHFEGLK	596.82	33.80	47.62	2	596.84	26.90	59.93	2
EADDIVNWLK	601.82	42.68	40.6	2	601.83	36.07	50.67	2
VNVIASALAQIPQK					726.45	36.74	68.13	2
LGIAPQIQDLLGK	683.42	55.49	44.12	2	683.40	42.31	51.07	2
EADLVFISVNTPTK	767.42	40.16	57.31	2	767.42	33.04	61.89	2
YDGSLVFQQVPMVEIDGMK	719.34	55.31	29.59	3				
VVTGGSDNHLILVDLR	570.01	32.50	51.76	3				
GQILTMANPIVGH(sub N)GGAPDTAALDELGLSK					949.51	54.53	28.4	3
C(+39.99)GVEILSLFDAENLGK					874.46	63.95	37.71	2

ISLVLGGDHSLAIGSISGHAR	515.81	35.83	41.72	4	687.39	27.64	70.31	3
LTFFNSTLSTAGLEPEGEDLPIPGAHR	957.18	54.16	29	3				
FSPLTSNLINLLAEN(+.98)GR					930.53	55.08	51.86	2
YQLDKDGVVLFK	475.62	30.90	53.77	3	475.62	23.50	58.09	3
VVMIEPGYFK	591.83	33.31	32.53	2	591.87	26.51	45.19	2
TVAIHSDVDASSVHVK	416.99	14.01	44.82	4				
DAGTIAGLNVMR					609.35	24.87	56.1	2
KEGMAAFVEK					555.30	12.15	55.4	2
GPGVR					485.32	14.52	26.59	1
QPIASLPGVAR	554.84	22.86	40.76	2	554.88	16.78	35.52	2
SLLDLVVFGR	559.84	58.68	32.2	2	559.88	52.60	41.95	2
TAFDAFPDQVAIQLNDTHPSLAIPELMR					1037.57	56.08	39.03	3
KWNQFYSEVLGR					763.88	25.49	56.59	2
SPLLIFADC(+57.02)DLGK	724.90	46.17	43.24	2	724.89	39.94	39.26	2
MSILGMTPGFGDK	677.34	42.91	39.63	2	677.32	36.22	39.44	2
INLDALITHSLNLDK	560.67	51.37	25.9	3	840.50	44.65	59.07	2
GGHFAAFE(+21.98)EPELLAQDIR	674.68	42.83	46.76	3				
KEALEFTPF	541.30	37.64	26.77	2	541.31	30.95	24.07	2
TGIIFM(+15.99)PGTTQM(+15.99)K	728.88	23.41	37.05	2				
M(+15.99)SILGMTPGFGDK	685.34	36.14	29.77	2				
LWLTSLRPELVR					494.97	34.62	30.24	3
TTNPSTGAVPFQFLR	818.44	41.43	34.31	2	818.45	33.83	69.61	2
ALELDPNLYR	602.33	33.00	44.84	2				
FEPFSNK					434.73	13.48	22.85	2
FGTVNIVHPK	556.33	15.14	51.9	2				
VEGGTPLFTLR	595.35	32.35	39.37	2	595.39	25.58	48.28	2
TEIIILATR	515.34	29.57	28.17	2	515.36	22.94	35.25	2
WLSMNVLMLDEK					739.89	45.93	53.9	2
FAFQAEVNR	541.28	22.02	49.84	2	541.29	16.20	50.08	2
ILTTAPSHEFEHTK	403.47	12.28	35.49	4				
GIHVEVPAAEANHLGPLQVAR	545.32	31.67	70.72	4	726.75	24.45	69.47	3
ADREDDPNFFK					451.88	12.98	43.52	3
ESLLSVAPK	472.28	21.53	31.19	2	472.30	16.06	38.69	2
ALINADELANDVAGAEALLDR	718.73	64.20	45.46	3				
AFAISGPFN(+.98)VQFLVK					819.98	53.12	41.53	2
GLFDEYGSK					508.26	18.39	49.48	2

ALEEANADLEVK					651.32	14.03	53.25	2
V(+14.02)AVIGAGIGGTSAAYYLR					876.99	36.91	34.95	2
GPPVSELITK	520.80	20.73	34.83	2				
LPPGPTPLPIIGNLM(+15.99)QLNLK					714.77	54.01	46.4	3
IHPVPFNQEELEAR	560.31	24.15	53.77	3				
DIETKPIVIGLINMPPPFK	708.09	57.27	50.1	3	708.09	51.10	54.36	3
PLVEQGTVLADIALSR	561.33	47.54	31.97	3				
DPDMVQNAVSETIK					773.88	26.36	63.53	2
TISGGYAEYALAADHTVYTLPEK	824.10	40.56	46.59	3	824.10	34.18	41.86	3
PVTTPEEIAQVATISAN(+.98)GDK	681.37	40.07	26.16	3	681.34	33.40	32.36	3
AFVDFLSDEIKEEK					557.32	36.18	49.67	3
EGIPALDNFLDKL					722.90	57.16	39.81	2
QLGSGLLLVTGPLSLNR					869.55	47.98	39.25	2
VLYPNDN(+.98)FFEGK	722.36	37.94	30.9	2				
ALPAAAIEGPAYNR	707.39	25.08	53.84	2	707.37	18.10	67.84	2
NSLFGSVETWPWQVLSK					989.53	57.77	38.44	2
IMNVIGEPIDER	693.38	30.30	50.05	2	693.35	23.03	51.55	2
SPAQILLR	449.29	21.08	32.6	2	449.30	15.60	41.44	2
LYTLVLTD(+21.98)PDAPSR	528.30	37.47	39.94	3				
ALDLAENEMPGLM(+15.99)HM(+15.99)R	620.63	28.14	35.89	3				
AIDLFTDAIK	553.82	39.30	36.69	2				
LYSPSQIGAF	541.80	40.52	25.43	2				
WLPQN(+.98)DLLGHPK					473.60	21.86	29.82	3
IIDSLFNTVTDK	683.38	37.61	41.3	2	683.35	31.28	55.71	2
ALVALGAVDT(-2.02)ALYAVGGK					843.97	47.20	26.12	2
Q(-17.03)LETIDQLHLEYAK	842.44	45.88	40.58	2				
FAELTLK					411.26	16.60	35.4	2
NDGSLM(+15.99)FQQVPM(+15.99)VEIDGM(+15.99)K	729.69	38.04	37	3				
VPDVLVADPPTAGLSVSGR					925.51	34.59	45.34	2
IFIER					677.40	13.27	29.48	1
FASFIDK	414.23	20.18	28.98	2	414.22	15.29	29.97	2
Q(+109.05)FLGVAEQLHNEGFK	609.34	38.86	29.46	3				
TTGIVMDSGDGVTHTVPIYEGYALPHAILR					796.69	40.29	61.94	4
KRPIHLSFDVDGLDPSFTPATGTPVQGGLTYR					861.48	37.24	50.3	4
SFLLNLGK	446.28	33.98	27.78	2				
IQFGVPLAK	486.81	30.99	29.72	2				

LNLPKPQQIDFAVPANMR					684.68	35.31	56.43	3
VDLLENQVMDVR	715.89	36.16	49.53	2	715.87	28.73	62.05	2
GC(+57.02)ASTGVIMSVNNSLYLGPILK					765.43	47.69	27.87	3
EFGAGLSSVR	511.78	19.70	45.01	2				
NVQAEEMVEFSSGLK					834.42	29.15	62.49	2
FFESFGDLSTADAVMN(+.98)NPK	697.66	49.51	43.1	3				
VIEGMDVVR	509.29	22.68	44.43	2	509.28	16.46	47.35	2
LGIPMSVLMGANIANEVADEK					724.72	53.79	66.78	3
TFAVQGFGN	470.74	32.65	34.28	2				
VIISLQLTAEK	607.88	34.31	40.52	2	607.91	27.59	49.61	2
IMFVGGPNTR					546.30	16.66	47.96	2
FVADGIFK	448.76	28.71	26.19	2				
FITIFGTR					477.80	28.69	25.19	2
VPTAHLEDVLPLAEDITTILSK	792.47	65.15	40.64	3				
KGFIGPGVDVPAPDMSTGER					677.32	25.08	59.77	3
IAKEEIFGPVQQIMK					577.72	29.82	65.58	3
LSLELGGK	408.75	21.20	37.66	2				
QTPALVALR	484.81	21.25	39.84	2	484.81	16.10	46.43	2
GLFTGLTPR	481.29	29.98	30.69	2	481.30	22.92	49.58	2
SYAVVGVPPDIMGIGPAYAIPVALQK					876.16	57.54	51.3	3
MAGAQGLLC(+57.02)LLSDR					752.88	44.12	52.04	2
HRPELIDYGK	409.90	12.17	29.15	3				
STVEIFK	412.24	18.57	31.73	2	412.25	14.69	40.72	2
M(+15.99)LDPAIGEFILVDR	802.94	51.80	25.39	2				
STSIIATIGPASR					637.34	18.70	44.86	2
IGLNETLLGIIAPF	735.95	67.40	35.49	2				
N(+.98)GVVVFTLGSMVK					676.37	48.03	29.87	2
LVGPEGFVVTEAGFGADIGM(+15.99)EK	747.06	50.87	47.76	3				
QLLQANPILEAFGNAK	864.00	52.02	31.49	2	863.99	45.23	58.22	2
IGAFSYGSGLAASF	674.35	52.78	47.33	2				
VSGLYETLESK					613.34	17.84	46.51	2
GELSGDFEK					491.25	12.47	37.59	2
QGGLGSINIPLLADLNHQISK					730.09	48.41	43.34	3
SAAPGGGSVAAASAAMGAALASMAGLMTYGR					909.48	63.38	49.64	3
YNSYATALK	515.78	14.03	40.74	2				
SPQYSQVIHR	405.56	12.25	52.21	3				

DAGEFVDLYVPR	690.86	45.09	40.87	2	690.85	38.50	39.77	2
PAYQGSNPISDIWAVHALR					699.05	37.78	57.96	3
AMPDVPAPLTNLQFK	547.98	46.27	27.33	3	821.45	39.97	33.58	2
NKLNDLEDALQQAK					800.42	23.78	60.92	2
LTSIDKWFLYK					471.96	32.85	43.82	3
AFHITNDEPIPF	700.86	42.87	23.77	2				
LKEIVTNFLAGFEA					776.44	49.73	58.35	2
NIFDFNALK	541.30	42.61	33.12	2	541.33	36.28	38.12	2
PTLAVIGLVQSLGAAIPTTDLQSR					807.83	61.83	38.57	3
LGELPSWILM(+15.99)R					665.86	41.31	22.51	2
YFAGTMAE(+21.98)ETAPAVLER	626.64	37.04	44.07	3				
VGPAEVENALAEHPAVAE(+21.98)SAVVSSPDPVR	730.65	40.71	25.78	4				
GENQSPIELNTK					665.34	12.87	53.53	2
LFPVAYNLVKPF					704.42	47.72	40.84	2
D(+57.02)CPVSSFNEWDPLEEVIVGR					1174.62	59.46	33.79	2
DTTLN(+.98)GFFIPK					627.34	36.96	40.78	2
LC(+57.02)YVALDFEQEMATAASSSSLEK	850.73	56.63	29.65	3	850.75	51.29	33.41	3
YTVGLGQTQMGF	651.33	44.66	46.76	2				
IQVVVLPGATTPPVR					773.96	29.67	33.13	2
KYSQFINFPIYVWSSK					669.70	44.92	60.38	3
LGGVQFDIDLPNKK	515.31	32.51	49.77	3				
KHEAFESDLAAHQDR					439.24	11.88	66.55	4
SAYALGGLGS(+79.97)GLCPNR(-.98)	538.94	33.14	22.69	3				
S(+42.01)SKPQSIGVIGAPFSK					822.98	25.14	34.27	2
FGMHLQVATPK					410.22	15.11	55.9	3
IAPSFAVE(+21.98)SIEDALK					806.43	47.64	26.51	2
MIPC(+57.02)DFLIPVQSQHPIR					684.36	35.71	35.3	□
NLEYVATSIHEAVTK	558.98	30.65	43.84	3				
LEGLTDEINFYR	735.38	41.33	54.92	2	735.37	35.52	68.82	2
TTAAMWALQTVEK					725.38	30.93	49.71	2
Q(-17.03)GFIDLPEFPFGLEPR	922.99	67.18	28.16	2	922.99	64.18	32.31	2
LGEHNIDVLE(+21.98)GNEQFINAAK	745.06	36.42	42.82	3				
LLWTLESLVTGR					694.41	52.74	53.2	2
C(+39.99)AVVDVPFGGAK	601.81	44.89	26.78	2	601.83	37.78	26.17	2
LLLFSPSVVR					565.90	33.96	31.47	2
DVGILAM(+15.99)EVYFPAQYVDQTELEK	892.12	61.45	59.41	3	892.13	56.18	55.91	3

LITFR					649.42	55.76	27.95	1
VPFLEFSAPGVPTGVELLK	667.39	63.96	41.95	3	1000.58	55.19	66.29	2
REDLEETFISLGR	522.29	37.49	49.71	3				
QFLLAAEAIDDIPFGITSN(+.98)SDVFSK	900.47	66.31	27.74	3				
NLDLDSIIAEVK					665.36	48.37	57.7	2
TIEYLEEVAITFAK	813.96	57.99	52.07	2	813.95	53.55	67.03	2
PEQVAMATVTALHR					762.42	36.94	58.4	2
ELLPVLISAM(+15.99)K	615.38	40.79	23.25	2				
FEVTHDITR	559.29	22.24	41.4	2				
Q(-17.03)LEAAVGGAQALSLLTGSR					913.03	59.65	36.77	2
ISQAEEEDQQLLGHLLLVAK	745.43	49.68	56.89	3	745.42	44.49	56.86	3
VAEQTPLTALYVAN	745.42	45.04	39.63	2	745.40	38.28	51.79	2
DVQAALTLAR	529.32	27.18	48.22	2	529.33	20.03	47.21	2
TESIAAATEWVK					653.34	23.66	47.75	2
VVSSILAFR					496.30	24.31	47.09	2
VGGVQC(+57.02)LGGTGALR	672.87	20.59	46.26	2	672.85	14.93	45	2
AMEIADALGK	509.78	24.66	50.69	2	509.78	18.18	47.58	2
AGDLGVDLTSK					538.30	15.06	56.12	2
IFPVET(+79.96)VVEEAIQCAEK	993.00	66.86	22.61	2	993.00	63.53	44.36	2
Q(-17.03)TALVELLK	499.31	53.66	27.45	2	499.32	48.53	23.89	2
HTIQGDYIGTMDELADLVGVKPN	829.44	58.94	23.14	3				
TAAYVNAIEK	540.31	15.22	53.91	2	540.30	12.62	50.52	2
SC(+58.01)NGPVLVGSPQGGVDIEEVAASNPELIFK					1028.90	55.16	38.54	3
DLTDYLMK	499.75	38.97	36.36	2	499.76	31.15	39.29	2
IVLQIDN(+.98)AR					521.81	17.55	29.67	2
VILDGNILEK	557.34	30.70	32.68	2	557.35	23.25	27.02	2
SALSGHLETVILGLLK					826.02	52.40	75.34	2
VDVAVNC(+57.02)AGIAVASK	737.41	26.62	50.21	2	737.39	18.98	53.12	2
GFAFVTFDDHDTVDK	571.95	36.57	38.95	3				
LWSTSLRPELVRPALEK					499.55	25.10	39.07	4
QLELILNKPGLK	455.97	28.27	38.07	3				
QKGEYLPLLQGK	458.61	23.35	28.44	3	687.38	17.32	54.61	2
QAITQVVVSR	550.84	16.95	50.56	2				
SGLLVLTTPLTSLAPR					820.02	49.49	38.12	2
LLLASFTGK					475.32	24.32	36.76	2
VLDPFTIKPLDK	462.62	35.45	48.89	3	462.63	29.06	37.28	3

VAFGKPLVEQGTVLADIALSR					728.75	45.12	60.16	3
EGQTFYYAEDYHQQYLSK					757.36	21.23	54.85	3
SLYGLGGSK					441.23	13.22	35	2
NLKPIKPMQFLGDEETVR					705.72	23.15	56.83	3
NTPIFFIR					504.32	29.44	27.54	2
NVTLPAVFK	494.81	41.34	26.76	2				
SFVNDIFER	563.79	37.17	28.06	2	563.82	30.41	30.99	2
LVGQIFLGGSIVK					665.91	35.49	57	2
LTLSC(+57.02)EEFVK					613.33	21.43	31.43	2
LPAGALLGEENK	606.35	23.13	54.62	2	606.35	17.04	57.24	2
SIEDFAHSSFQMALSK					899.46	35.56	62.89	2
DMDLYSYR					531.75	19.59	38.97	2
GLGTDEDAIINVLAYR	860.47	52.76	61.83	2	860.46	49.12	72.5	2
GQNQPVLNITNR	677.39	18.43	64.18	2	677.35	13.79	53.44	2
EQGYD(+21.98)VIAYLANIGQK	601.98	55.50	31.16	3				
LGYFLALTGFR					629.36	46.96	57.91	2
LPQPEEGATYEGIQR					844.42	15.76	65.5	2
IQGGSVVEMQGDEMTR					868.91	16.24	58.07	2
GPSFDVQVGLHELLGHGSGK	509.28	40.61	61.03	4				
VTNVGDGTTHSTALELFLYLN(+.98)EVAGK					917.50	56.98	24.37	3
INVNEIFYDLVR	747.91	60.25	45.85	2				
EYQELMNVK					577.31	15.15	54.32	2
IVNSDPIEESIK					672.36	16.04	49.38	2
FLPHPVYSK	544.31	14.46	38.68	2				
EFVEEFIW(+3.99)PAIQSSALYEDR	811.75	64.25	32.26	3				
QLAHAQSILDAK	432.25	14.13	38.85	3				
GFQAAVAAGAK	495.79	13.44	52.43	2				
SFEEIAAEFR					599.84	31.75	45.59	2
VDLLENQVM(+15.99)DVR					723.87	20.49	42.12	2
SPWWVR					415.74	19.50	31.43	2
QISNLQQSISDAEQRGENALKDAK					661.57	32.37	46.93	4
DNLAEDIMR					538.78	24.22	41.23	2
IALTDNALIAR	585.87	30.36	44.05	2	585.92	23.23	46.95	2
YN(+.98)LGLDLR					482.77	25.40	25.38	2
LSDLHAHK	460.76	39.06	35.28	2	460.77	32.51	43.52	2
FVGVNASDINYSAGR	785.41	28.49	30.71	2				

DIVYIGLR	474.79	34.37	40.54	2	474.80	27.13	39.69	2
AEIDMLDIR					538.29	27.09	50.14	2
DLNLMDIK	481.27	36.12	36.17	2				
TLPEVLIMEYR					682.37	39.02	40.89	2
DVYTAGIATHFVDFEK	604.99	43.19	24.92	3				
YDDDGEGITLFR					700.83	28.67	55.27	2
WLPELVER					521.31	27.23	31.7	2
YTHSFPEALQK	440.90	14.88	36.45	3				
IASYNIDGTFFPK	736.89	39.33	60.76	2	736.89	32.98	62.76	2
GLATFC(+57.02)LDK	512.78	25.95	30.66	2	512.79	19.58	32.8	2
AHLMSQPLAYHTPDC(+57.02)GK					642.65	12.37	63.13	3
IGPLGLSPK					441.30	16.23	33.51	2
C(+57.02)MALSTAILVGEAK					732.39	32.10	21.77	2
NQLTSNPENTVFDAK					839.41	17.81	60.77	2
QADTVYFLPITPQFVTEVIK	770.44	66.28	54.77	3	770.42	60.82	62.77	3
SSPLFGIYYSVEK	745.39	43.25	33.77	2	745.38	36.96	60.73	2
AFAISGPFNVQF	649.34	62.38	36.79	2	649.33	56.20	53.74	2
LGKDAVEDLESVGK	487.27	25.28	25.88	3				
FAAEHTIFASNTSSLQITSLANSTTR	923.49	54.81	32.91	3	923.50	34.91	59.73	3
GTVVIPTLDSVLHDR	541.32	43.04	48.8	3	541.35	36.47	55.85	3
EISHDPSLKPWTASYDPGSAK					762.70	17.49	77.19	3
LALDIEIATYR					639.34	35.83	56.72	2
FSTVAGESGSADTVR					742.35	12.28	63.09	2
SIFSAVLDELK	611.36	57.41	47.19	2	611.37	51.89	56.08	2
VEFVSELPK	524.30	27.77	37.5	2				
GTEDFIVESLDASFR	562.62	55.96	30.21	3				
LASDLLEWIR	608.35	51.39	43.58	2	608.38	45.72	47.02	2
STAIILVPTSYEWFK					878.00	50.91	25.41	2
GGLFSQTFR	506.78	27.53	43.79	2	506.80	20.14	26.13	2
LGVTVLSR	422.78	19.44	42.68	2	422.78	14.47	40.02	2
GVDEVTIVNILTNR	514.97	51.11	45.67	3	771.94	45.20	60.98	2
QHLQIQSTQSSLNEVIQNLAATK	851.15	46.38	52.48	3	851.16	39.50	68.22	3
IDWDQPAEAIHNWIR					621.99	43.75	58.72	3
FAIQDISVEETSAK					769.39	26.20	55.44	2
AAYQVAALPK	516.31	19.00	55.88	2	516.32	14.13	55.94	2
LGPDLVDAAQAR	613.35	26.43	40.69	2				

ALLLSTYIK					511.34	28.73	21.54	2
IPSHVPFLLIGGGTAAFAAAR					689.37	42.89	57.36	3
SESILGGLGLGLGGSGCK(+229.16)					917.50	39.08	27.7	2
LQEEIDATFPNK					702.85	18.03	60.83	2
ADGDSWVLSGTK					618.33	17.62	55.42	2
NMVPQQALVIR	634.87	28.10	35.78	2				
EPVVLALAEK					534.84	23.19	40.18	2
APGMDQLVLPTK	635.37	31.09	32.7	2	635.36	23.52	45.04	2
NVFSFFLNR					572.33	44.85	53.6	2
QFAAIHAEAPEFVEMSVEQEILVTGIK					996.23	54.92	58.8	3
VESSALELTEEELGTAEAVR					1067.06	42.10	51.11	2
LIDGILTEQK	565.34	26.76	42.53	2	565.35	20.06	50.69	2
LVN(+.98)ELTEFAK	582.83	33.43	27.82	2	582.85	22.72	26.11	2
YGLAAAVFTK(+27.99)	534.80	31.27	25.94	2				
ASLGK					475.33	24.61	27.64	1
LLPVGQTVFITIETPDGIPVK					746.45	52.94	51.75	3
PAEQTPLTALHMGSLIK					603.05	31.71	59.62	3
VGM(+15.99)AAVQLVPGQAFDGQR	620.67	32.62	36.19	3				
GVAPLWMR					465.28	21.64	41.35	2
FEAPEALFQPH	643.33	38.62	28.53	2				
TVLIMELIN(+.98)NVAK	729.94	49.43	41.44	2	729.92	56.36	49.72	2
LLYAFAEATVPK	661.89	38.17	47.47	2	661.86	30.67	64.72	2
GGGQIIPTAR	485.28	13.84	32.11	2				
LQFWMK					426.72	22.97	30.83	2
VNVPVIGGHAGK	574.34	15.09	49.1	2	574.34	12.46	49.53	2
IPSHVPFLLIGGGTAAF					849.00	51.90	42.14	2
LTSYALSIPFVR					683.87	40.99	57.53	2
GIKPVTLELGGK	404.59	19.92	51.86	3	606.38	14.70	54.73	2
LSDRPQLPYLEAF	774.93	48.00	26.89	2	774.92	42.24	30.92	2
PTLHYFN(+.98)GR	553.29	16.01	36.27	2	553.31	12.85	39.1	2
SLGVSNFNR	497.27	16.26	30.57	2				
FLAS(sub N)VSTVLTSK					626.86	26.55	28.32	2
QTVAVGVIK	457.79	15.40	32.32	2				
SGGGYIVVDPILR	673.40	38.21	45.21	2	673.37	31.65	58.05	2
IYFM(+15.99)AGASR	516.26	15.70	34.6	2				
LPSGLPVSLLTLYLDNNK					979.10	59.09	28.31	2

FGYSGAFK	438.73	18.94	23.64	2				
AAVAWEAGKPLSIEEVEVAPPK					764.42	33.40	45.85	3
AAELIANSLATAGDGLIELR	666.72	54.86	56.01	3	666.72	49.12	66.96	3
LFPSFIHSQK	602.34	53.83	24.49	2	602.37	34.74	33.14	2
PISSVGVLGLGTMGR					722.39	32.81	59.11	2
PGFFFEPTVFTDVQDHMFIAR	834.43	65.93	32.44	3	834.42	57.33	56.72	3
SVFALTN(+.98)GIYPHK					483.30	25.88	35.72	3
GGFVLLDGETFEVK	755.90	48.08	49.16	2	755.90	41.72	59.74	2
YFPTQALNFAFK					723.88	42.11	67.06	2
TLDPMAIFFTSGTTGFPK	644.34	63.42	30.2	3	966.00	57.81	72.58	2
TISLIMK					403.29	17.00	23.51	2
SLYLGPILK	502.32	36.44	29.03	2				
LSIQC(+57.02)YLR	526.79	30.17	31.93	2	526.81	23.04	27.64	2
AIGAALAAR	407.26	13.48	36.32	2				
ILIEWLETDAR					679.88	41.99	55.34	2
IALLSDLTK					487.32	27.36	25.2	2
FS(+79.96)SCGGGGGSFGAGGGFGSR					894.84	22.17	39.31	2
YLPNTALDLFK	647.87	45.72	42.9	2	647.87	38.44	50.02	2
NFDLRPGVIVR	429.26	44.37	32.24	3	429.26	20.21	48.25	3
LLSHSLLVTLA					583.92	34.12	23.68	2
LLDAAGANLK	493.30	17.66	36.12	2	493.31	13.73	37.91	2
LFYSTFATEDR	675.34	30.77	53.25	2	675.31	23.95	60.25	2
YFPYYGK	469.24	21.67	24.82	2				
N(+.98)HLLHVFDEYK	472.59	28.94	26.26	3				
FIVPMLTVDGK					610.36	39.32	35.63	2
EGLTL					532.33	28.22	23.52	1
VTIAQGYDALSSMANIAGYK					691.68	48.88	71.14	3
GGPMFYASTVGLPTVLEK					934.03	44.56	58.81	2
ALHFVFK	431.26	19.70	29.19	2				
PANFLDLGGGVK	594.33	33.67	39.43	2				
ALTSE(+28.03)LEALGK	580.33	29.90	38.36	2				
NPQTHLKDPDMVWDFW					676.99	43.44	26.08	3
YGLAATVWSGNVGR					725.89	26.92	63.2	2
LEQFVSLLMASIPVSGH					914.50	60.19	48.97	2
AIADYLR	411.24	21.69	27.64	2	411.24	16.29	23.47	2
YIYEIAR	464.27	20.76	34.92	2	464.25	15.36	37.8	2

IFNTNNLWISLAAVK					852.48	50.27	68.07	2
LTAVNHDAAIFPGGFGAAK	619.68	30.90	39.94	3				
DEILPTTPISEQK					735.89	22.15	25.85	2
YGLLLLLK					466.84	40.47	41.32	2
TYETINPTDGSALC(+57.02)QVSLAQVSDVDK	937.80	46.59	40.21	3				
DVVIC(+57.02)PDASLEDAK					766.37	22.78	40.99	2
FLAN(+.98)VSTVLTSK	640.87	44.67	30.01	2	640.86	30.42	43.72	2
M(+15.99)IASALAQIPQK	643.87	23.93	44.35	2				
FSSETWQNLGTLHR					838.44	22.05	67.91	2
N(+.98)SNVGLIQLNR	614.85	32.40	23.68	2				
YVANLFPYK	557.81	31.50	44.5	2	557.86	24.86	40.11	2
SDTIQTDYVVYMDELASFIGAK					822.75	63.85	35.98	3
IGDEGQGFLIAM(+15.99)K	697.87	28.34	44.35	2				
PTGGAGAVAMLVGPEAPLVLER	702.40	52.95	48.38	3	702.39	47.24	49.19	3
LIDMLSEAGLPVVEATSFVSPK	768.43	63.61	56.7	3				
AEGIPVEMVVVGDDSAFTVLK	726.06	58.78	48.06	3	1088.62	53.42	28.28	2
LTYEEVLR	511.79	25.26	36.12	2	511.80	18.81	38.83	2
LPAAGVGDMVMATVK					730.40	32.22	46	2
SIFSAVLD(+21.98)ELK	622.34	57.22	23.25	2				
LLITGAAPISPPVLTFLR					627.06	57.20	61.24	3
VFAAGADIK	446.26	15.11	38.15	2	446.24	12.61	42.75	2
SLHTLFGDELC(+57.02)K	473.92	27.94	33.11	3	473.92	21.09	42.83	3
DTGPGVTQPEVDTPLGR					869.95	20.70	41.14	2
TTYSDNQPGVLIQVYEGER	723.72	39.37	36.36	3				
VQAC(+57.02)GVNPVDTYIR					796.41	20.71	53.22	2
FSLMVLR					433.25	29.78	40.32	2
GVDEATIIEILTK	701.40	55.79	43.84	2	701.39	52.41	52.79	2
SVGEVMAIGR	509.78	20.35	42.64	2	509.78	15.22	51.44	2
C(+57.02)LYSLINEAFR					693.35	42.01	27.65	2
LLDNWDTLASTLSK	788.92	50.03	54.59	2	788.93	43.86	67.84	2
LNSPLTPEK	499.79	14.66	43.78	2				
ADLLEPEVFHLNPAK	564.98	38.85	42.07	3	565.00	32.38	38.09	3
NSNVGLIQLNRPK	484.96	17.88	43.8	3	726.94	13.41	64.42	2
LLVVYPWTQR					425.58	34.58	55.8	3
VLVWPVEFSHWMNMK					634.98	50.88	52.17	3
IITHPNFNGNTLDNDIMLIK(+14.02)LSSPATLNSR					831.73	43.61	30.46	4

GAVEIIFK	438.78	27.52	35.46	2	438.77	21.15	30.16	2
QADTVYFLPITPQ	746.91	54.62	25.91	2	746.90	48.97	33.2	2
AGIAHLYG					401.22	13.39	30.23	2
VLDQYIFELSR	691.88	44.53	38.13	2	691.88	38.28	51.44	2
YVGSMVADVHR					411.89	12.28	63.37	3
EMILAYK	434.24	20.59	33.94	2				
LNDGHFIPVLGFGTFAPR	653.36	50.69	57.88	3	653.37	44.41	71.05	3
PMQDRPTLFLEVIQR					615.03	35.01	60.19	3
NLSIYDGPEQR					646.32	15.05	37.99	2
IIVVDINSEK	565.33	23.75	36.18	2	565.35	17.61	44.03	2
TANDAGYFDNEMAPVEVK					985.96	27.49	63.27	2
TGTFFWPGSDVK					671.32	31.31	51.24	2
G(+225.16)NVLVVVLAR					632.90	67.82	30.85	2
HSSFVPF					410.72	21.45	22.6	2
HLDMADLEAK					571.81	13.95	60.62	2
TVSVLN(+.98)GGFR	525.79	25.48	28.07	2	525.82	19.21	31.92	2
ATDAMAHVAGFTVAHDVSAR					676.33	17.25	83.94	3
FAGLHFFNPVPLMK					809.47	43.06	63.89	2
PAAHFFEK	473.75	24.48	39.16	2	473.76	18.20	47.43	2
IVLQIDNAR	521.32	21.02	35.91	2	521.33	15.52	36.43	2
DHLLLATMEAMN(+.98)GGK	534.61	36.07	42.49	3	534.62	34.01	43.83	3
ELADPSSIR					494.25	12.56	36.25	2
NVSTGDVNVEM(+15.99)NAAPGVDLTQLLNNMR					963.48	52.08	34.14	3
SELSGNFEQVILGMMTPTVLYDVQELR					1023.86	64.22	37.14	3
AVIQVSQIVAR	592.38	36.98	44.21	2	592.38	20.34	52.72	2
IEISELNR					487.26	14.26	38.75	2
DGALELAR					422.75	13.62	26.62	2
FDNLYGC(+57.02)R	522.74	16.37	31.13	2	522.74	13.18	33.21	2
LANVSTVLTSK	566.85	22.22	25.08	2				
VNLGVGAYR	474.78	18.07	37.77	2				
AVALQNPQAHVIENLHAAAYR	572.33	27.92	57.11	4	572.36	20.52	73.29	4
FSQFLEK	449.75	17.84	34.18	2	449.75	14.16	34.17	2
GLEGFVAAISPF	604.33	65.07	39.41	2				
ELDLAEDR					480.73	12.95	38.59	2
VPAINVN(+.98)DSVTK					629.34	15.24	49.36	2
DTYVNTIGHR	588.31	12.70	68.14	2	588.32	11.94	60.35	2

GASFLAITTIYAETGSGFVVPSASAK					849.15	55.66	57.4	3
EFLDVIK	432.26	31.79	23.93	2				
NM(+15.99)ASLGGHIVSR	419.90	11.87	37.02	3				
ETLMDLSTK					519.27	17.13	45.61	2
LGLSSLLR	429.78	30.57	38.94	2	429.79	23.43	37.16	2
AELDFGAITLN	582.31	52.94	26.68	2				
LVSD(+15.99)EMVLELIEK	767.41	46.89	27.12	2				
EALIDQGDEFLGR					731.86	29.86	62.56	2
LEDLIVK					415.26	14.97	32.49	2
NLQLDYVDLYIMHYPMALKPGEELFPK					810.17	55.92	30.06	4
SLDFYTR	451.23	20.54	31.57	2	451.23	15.59	38.2	2
TLTAVHDAILEDLVFPSEIVGK	789.79	58.79	27.5	3				
HGPVGLVHVDAH	413.23	12.22	32.04	3				
LVNELTEFAK	582.33	29.92	45.43	2	582.35	23.17	49.63	2
FILEEIK	446.27	30.36	23.32	2	446.28	23.71	24.47	2
KLEDEGEQFVK					661.34	12.42	60.33	2
GLVVPVIR	426.80	29.29	31.21	2	426.78	21.52	33.59	2
AYVEANQMLGDLIK	782.93	44.76	45.43	2				
TQDVNYMFGIVGIPVTEIALAAQEVGIR					1002.23	64.86	60.19	3
YTLPPGVDPTLVSSSLSPEGTLTVEAPLPK					1022.57	55.20	27.04	3
PTLFLEVIQR	608.37	44.30	36.08	2				
Q(-17.03)VAEVFTGHLGK	634.85	35.40	29.33	2	634.84	28.32	36.55	2
IFINN(+.98)EWHSSVSGK					540.29	19.00	31.45	3
GN(+.98)NISSGTVLSDYVGSGPPK	650.67	37.45	29.99	3				
VYALPEDLVEVKPK	533.99	33.70	40.21	3				
ALGGR					473.27	21.24	24.04	1
TIIPLISQC(+57.02)TPK					685.87	26.77	34.57	2
FELTC(+57.02)YSLAPQIK	785.42	41.50	23.31	2	785.40	34.79	49.47	2
YPIEHGIITNWDDMEK	654.33	33.91	57.61	3	654.30	26.57	52.58	3
LFSEFLGK	470.78	42.03	46.6	2	470.78	26.55	41.4	2
LVFGILN(+.98)GR					495.32	33.58	36.18	2
Q(-17.03)AFQIGSPWR					586.83	40.33	20.97	2
DDLLGFALK	496.29	45.79	39.01	2	496.29	39.37	41.5	2
SADVDSVVSGTLR	653.35	26.74	57.71	2	653.33	19.13	68.59	2
LYSPSQIGAFVLMK					777.45	43.96	56.43	2
NHPEPTLTQLNDALGGNLC(+57.02)R	740.73	36.36	37.97	3				

Q(-17.03)GQYSPM(+15.99)AIEEQVAVIYAGVR	770.07	64.85	24.67	3				
SPLIIFSDC(+57.02)DM(+15.99)K	721.35	34.50	36.1	2				
ALEDNMSLDEIM(+15.99)K					762.85	22.56	60.58	2
TSIAIDTIIN(+.98)QK					659.35	26.02	41.49	2
SNDETFITVSR					634.81	16.02	58.31	2
LPMPNLK	406.75	21.21	29.46	2				
LILDEVSLPGSAPGGR	790.96	41.27	39.51	2	790.93	34.96	53.15	2
TKYPNLISYSYMPR					578.34	25.75	55.21	3
LYSLLFR					456.30	29.33	22.58	2
YEELQITAGR	590.31	20.45	57.73	2	590.32	15.05	58.02	2
LISWYDNEFGYSNR					882.42	34.92	73.58	2
AVGWNELEGR					565.81	17.88	48.76	2
IMLLNTFLK					546.85	40.77	36.24	2
IVSPQEALPGR	583.84	19.82	45.39	2	583.88	14.61	54.19	2
EQDAYSLLISHIFHC(+57.02)R					663.65	43.26	41.17	3
AGFALDEGLANPTDAFTVFYSER	831.09	63.09	23.01	3				
LPVQATPEGLDAAFVGVPLDIGTSNR	879.83	59.23	24.56	3				
IEFEGQSVDFVDPNKQNLIAEISTK					941.16	46.95	68.46	3
VPSIKPNAGEESVMNLDK	643.35	26.39	50.34	3				
NEGVPALYSGLKPTLIR	610.03	37.59	29.8	3	610.01	30.54	44.69	3
LVWVPSELHGFEAAALR					632.34	42.38	22.16	3
TNVN(+.98)GGAIALGHPLAGSGSR	617.35	22.21	45.65	3	617.34	15.48	48.83	3
APPETWVSQGK					600.35	13.16	62.48	2
EGTVTAGNASGVSDGAGAVIIASEDAVK					849.43	35.09	65.77	3
GQTLVVQFTVK	610.36	41.40	36.47	2	610.39	24.16	54.73	2
IPAMTIAK	422.76	17.00	36.87	2	422.76	13.55	34.84	2
IDIPSFDWPIAPFPR	591.00	65.59	33.94	3	885.99	58.86	53.93	2
NLLLAEVINVIK	669.93	60.96	55.76	2	669.92	55.92	52.14	2
TLSSISTSTDAASVVHSTDLVVEAIVENLQMK	837.20	66.60	47.4	4	1115.97	63.06	49.87	3
FHYGFNSN					493.24	14.21	27.15	2
EQLLALVQDVVDK	735.42	55.65	35.26	2				
DFSELEPDKFQNK					798.88	20.09	52.77	2
VAWVFSR					432.74	21.31	38.81	2
MLLFTEVTR	555.31	36.05	49.38	2				
EAIQLIVR	471.30	25.29	33.52	2	471.30	19.04	37.23	2
HSQFIGYPITLFVEK	593.68	47.55	47.4	3				

SAYALGGLGSGLC(+57.02)PN					718.85	34.07	21.25	2
GSVNMPFMNFLTEDGFEK					1032.00	56.23	56.55	2
MTFSNPSELDELMSEEAYEK					1175.58	43.64	50.08	2
KGSITSVQAIYVPADDLTDPAPATTFAHLDATTVLSR					961.53	46.80	37.95	4
ALAISDLNR	486.79	20.70	37.73	2				
DTHVVVYDGDDLGSFYAPR	709.36	40.11	37.72	3				
GLALLEELLPK	598.39	64.11	46.47	2				
VYGVGSLALYEK	649.87	33.49	38.55	2	649.84	26.52	67.95	2
AVEHLDDLPGALSELSDLH	677.69	50.09	35.53	3				
G(+57.02)GCEAIVDTGTSLIVGPVEEVR					753.39	44.47	24.83	3
GSLDSLPQAVR	571.82	22.96	35.75	2				
MINLSVPDTIDER	751.90	37.87	32.41	2				
ANNTFYGLSAGIFTN(+.98)DIDK	688.02	52.06	25.06	3	1031.52	47.08	41.43	2
LSFLLLEK	481.81	50.55	27.4	2	481.83	35.86	34.63	2
TGIIFMPGTTQMK					712.88	29.65	50.54	2
FFESFGDLSTADAVMNNPK	697.35	48.75	70.2	3	1045.51	42.00	77.35	2
HVTVIGGGLMGAGIAQVAAATGHTVVL					834.15	51.22	46.55	3
DAFQNAYLELGGLGER	584.97	51.26	59.73	3				
AISPDKDNFYFEVK	558.29	29.42	32.26	3				
ASEQALQLGSLFPPAEALQVGLVDQVVPEDQVQSTALSEMAR	1106.35	66.38	34.59	4	1106.35	63.08	42.41	4
VVAGVAN(+.98)ALAHR	589.85	17.25	53.43	2	589.87	13.22	55.59	2
EEIFGPVLAVYVYPDEEYK	754.06	58.92	25.54	3				
PAPLQGVLPGLLGPLR					799.52	50.70	52.61	2
NTISYPPMC(+57.02)SQDPVGAQLLSDLFTNR					975.50	59.21	45.31	3
EDQTEYLEER					656.29	12.73	49.41	2
LPNVEFVGGLH	591.34	37.03	43.17	2				
EQADFAIEALAK					653.31	28.32	53.45	2
LAPLISIALK					519.89	36.10	28.63	2
NVPATPVAWPSQEGQNPSLSPIR					815.77	34.50	53.17	3
PSYVLSGSAMNVVFSEDEMKK					773.39	35.13	49.88	3
E(-18.01)FTPVLQADFQK	702.87	49.43	37.54	2	702.86	43.10	34.32	2
GT(+79.96)FAALSELHCDK					736.33	22.42	38.41	2
LYSEFLGR	492.77	26.26	40.06	2				
YADLTEDQLPSC(+57.02)ESLK					934.95	24.26	47.3	2
AYNM(+15.99)VDIIHAVVDER	587.65	36.62	29.66	3				
LTNTPAVISAFSTMMSVHR					688.34	44.17	54.32	3

IITHPNFN(+.98)GNTLDNDIM(+15.99)LIK					767.39	39.98	39.94	3
THNLEPYFESFINNLR					665.31	46.06	78.3	3
GGLLM(+15.99)LENFIGGK	682.88	49.46	42.41	2				
AIYHSLGLTGIPIINVN					898.03	47.40	22.36	2
KYTPEQVAM(+15.99)ATVTALHR	483.77	28.35	66.77	4	644.65	21.03	54.84	3
GLTPSQIGVILR	627.39	38.00	42.13	2	627.36	31.06	43	2
LN(-17.03)DGHFIPVLGFGTFAPR	647.70	63.30	38.34	3				
QDEVYYDSSILTPLLLR	675.71	59.80	54.41	3	1013.07	55.51	67.25	2
SPILLGSQAHQIYR	528.31	22.39	58.28	3	528.31	15.62	57.66	3
FTITPPTAQVVGVLK					785.98	38.68	40.51	2
GLVLIAFSQYLQQC(+57.02)PFDEHVK					831.44	53.55	31.02	3
GFEIAQGR	439.24	14.54	26.62	2				
VDFVN(+.98)GLHTLC(+57.02)GAGDIR	615.65	37.90	25.01	3				
SYK(sub E)LPDGQVITIGNER					597.35	34.31	26.72	3
DYVAQFEASALGK	699.86	42.38	60.4	2	699.85	35.71	66.3	2
NVAGHYISPFHDIPLK	452.76	28.80	36.55	4	452.77	22.17	29.06	4
VLSWDVAN(+.98)GVAR					644.34	24.65	42.27	2
FVTLQQWMLQLVSK					861.02	60.76	46.76	2
GEMMDLQHGSLFLQTPK	644.68	38.62	50.24	3	644.64	31.59	76.23	3
EGWPDTAYGVTK					662.32	18.69	52.8	2
TLVLLMGK					437.77	23.49	39.45	2
SAGWNIPMAK(+14.02)					544.79	20.49	32.95	2
M(+15.99)PYTD(+14.02)AVIHEIQR	534.95	24.90	34.02	3				
GFFELFPSLSR	650.36	56.85	46.07	2				
NPILWNVADVVIR					754.95	48.75	53.63	2
KEYGGLDVLVNNAGIAFK	636.70	56.82	52.48	3	636.68	37.67	55.75	3
QGQYSPMAIEEQVAVIYAGVR					770.40	53.39	64.87	3
AGVPPGVVNIVFGTGPR					818.96	40.87	58.21	2
Q(-17.03)PVLNITNR	519.30	32.70	23.42	2				
HIDC(+57.02)AHAYQNEEEIGQVIR					761.38	15.97	58.44	3
C(+39.99)LMEGAGDVAFVK	690.33	51.79	30.78	2	690.32	45.80	33.74	2
AQFPSVSVEASGGVR	745.90	26.85	46.65	2	745.88	19.55	59.97	2
NRPSSGSLIQVVTTEGK	591.67	23.01	39.51	3				
DADTQNFVSFVC(+57.02)R					779.86	32.32	61.14	2
SIMN(+.98)GGLAEIPGLSINLAK					950.04	51.45	37.36	2
EPLFGISTGNLITGLAAGAQVYK	774.11	62.39	57.33	3	774.10	56.42	62.49	3

GYAVNVFDIR	577.32	37.13	52.81	2	577.36	30.43	58.3	2
GSTLTEILEGLK	630.87	48.69	34.61	2				
DLGATWVVLGHSER					513.95	28.50	45.08	3
LAILGIHNEVSK	431.93	22.72	35.63	3				
MMLDLNK					432.72	15.77	33.96	2
LPLPPSYVPVM(+15.99)LSELSDR	677.06	58.29	46.75	3				
QAALVLDGLEAR	628.37	32.28	40.29	2				
TVL(sub M)GDHGDELFSVFGAPFLK	717.05	58.93	30.26	3	717.05	53.96	33.24	3
MPILGLGTWK					558.37	36.21	45.19	2
VAIAVAFNQAIAR					672.37	29.48	64.19	2
ALLEVVQSGGK	550.84	22.36	43.33	2				
QHGVTVIQYVGEILR	571.33	46.95	35.76	3	571.38	39.91	49.4	3
ELLAIPDNYK	588.33	32.43	33.55	2	588.36	25.07	36.99	2
NTVIATGGYGR	554.80	13.94	40.43	2				
LALNIADDM(+15.99)LK	616.84	31.46	23.52	2				
LPSC(+57.02)SLEIIDHIVGNQPDQEMVSASEWYLK					1153.63	56.86	29.34	3
VFITDDFHDM(+15.99)M(+15.99)PK	543.26	24.24	26.31	3				
AAQTLLWTELIR					707.92	44.64	55.15	2
VTLELGGK	408.75	16.55	37.26	2	408.75	13.62	37.57	2
FLAEEGFYK	552.28	26.83	28.7	2				
VSTM(+15.99)EIIK	468.76	13.34	25.77	2				
KFYGPEGPYGVFAGR	548.96	30.81	29.77	3				
MNPQTAFFQGK	634.82	24.88	36.58	2	634.83	18.21	62.76	2
ANDTTFGLAAGVFTR	770.90	42.16	53.3	2	770.89	35.36	69.18	2
VTIAQGGVLPN	534.82	29.39	28.29	2	534.85	22.11	28.39	2
LQLETEIEALKEELLFMK	726.43	63.96	43.69	3	1089.16	59.25	52.8	2
ALEHFTDLYDIK	488.93	33.42	49.08	3				
LPEFTEEEK					561.30	14.22	46.72	2
A(+42.01)SLGHPATFGR	578.31	20.04	24.93	2				
YHGPQTLYLPVTLSSIPVFQR					806.14	49.77	39.14	3
GTVLTLMR					445.76	18.81	21.27	2
NIVVVDGVR	485.80	19.25	35.21	2				
LGSHFWGFQTHDVLPDIVTMAK					625.57	43.90	50.8	4
IIEYLVPQDGPEQSLVDQPLR	803.77	49.53	36.47	3				
TYFPYLM(+15.99)AVLTVK					781.45	49.20	34.55	2
VQAVVAVAR	456.80	13.52	25.35	2				

VTPVELHDYVQNHFTSAR	529.04	30.75	33.07	4				
ASFITPVPGGVGPMTVAMLMQSTVESAK					936.16	62.13	52.06	3
EGMNIVEAMER					639.79	25.73	55.52	2
LVLEVAQHLGESTVR	551.00	31.49	42.19	3	825.96	24.24	69.24	2
PFGVALLFGGVDEK	724.90	54.91	32.59	2	724.90	48.56	46.42	2
AFITHGGSN(+.98)GVYEAIYHGIPMVGTPLFADQADNIAR					951.76	52.61	21.95	4
VGVN(+.98)GFGR	403.72	15.18	34.98	2	403.71	12.69	30.5	2
DGVSAAVITAELASFLATK	932.53	66.97	26.96	2				
QPGVVFIAAK					515.32	16.89	35.64	2
DLAIQLGMLDPAEKDEK	629.35	43.42	50.79	3	629.33	38.37	45.91	3
GSFPSVWNPITYLDHNNLWR					806.10	55.42	48.26	3
TQIDHYVGIAR	424.91	17.25	26.67	3				
YAIDLLSVALNR	674.40	52.45	37.7	2	674.39	46.33	53.73	2
GPLLVQDVVFTDEM(+15.99)AHFDR	735.72	44.31	47.84	3	735.70	41.65	51.26	3
FAGGSLEMLQQMISK					820.42	46.22	76.94	2
LNAAR					544.31	26.24	22.54	1
VTAEVVLAHAGSGSSPR	546.65	17.55	52.72	3				
ILIVGGGVAGLASAGAAK					762.95	30.64	73.75	2
EASMVITESPAALQLR					858.47	32.05	47.65	2
HGSIIYHPSLLPR	497.30	21.36	62.4	3	497.31	14.59	72.2	3
LLC(+57.02)GLLTER					537.83	24.28	25.72	2
EEIFGPVMQILK	702.39	53.83	43.78	2	702.39	50.34	55.76	2
LPNVEFVGGLHC(+57.02)K	490.61	27.63	29.69	3	490.62	20.61	33.59	3
VTFLLVDK	467.79	31.98	22.44	2				
VIVVGNPANTNC(+57.02)LTASK					879.49	18.10	25.28	2
FFEFLTK	466.26	40.22	37.87	2	466.27	32.73	43.12	2
EEIFGPVM(+15.99)QILK	710.39	44.83	40.12	2	710.38	40.70	36.18	2
AISESGVALTSALVK(+42.01)	744.45	48.99	27.38	2	744.43	45.19	32.25	2
TAVDSGIALLTN(+.98)FQVTK	593.68	50.29	38.19	3	889.99	44.97	50.42	2
SVMEPMC(+57.02)LEAWLDGHR					644.31	43.21	38.99	3
VPPVQVSPLIK					588.90	21.64	50.27	2
AIDGLNSNMR	545.78	15.51	59.03	2				
EEIFGPVLVVLETDTLDEAIK	777.43	66.63	69.86	3	777.44	63.82	80.22	3
IGPALSC(+57.02)GN(+.98)TVVVKPAEQTPLTALHMGSLIK					801.71	40.88	22.25	4
GALALAEAVQR	549.83	24.74	53.71	2	549.86	18.65	51.41	2
IGPALSC(+57.02)GNTVVVKPAEQTPLTALHM(+15.99)GSLIK					805.46	32.30	28.86	4

KVLDSFSN(+.98)GMK	613.82	16.43	44.24	2	613.83	13.02	46.22	2
IVNDNPYGN(+.98)GTAIFTTN(+.98)GATAR	757.04	36.68	32.95	3	1135.08	29.50	53.12	2
QVPGGYTVINK					588.37	13.08	26.49	2
EAYNLGVR					461.25	12.78	37.04	2
Q(-17.03)ATVGDINTERPGMLDFK					988.02	33.37	37.67	2
C(+39.99)ILPGLVDAHTHPVWAGER					704.37	41.65	27.84	3
ASDVVLGFDELEGYLQK	628.33	58.13	61.98	3	942.00	52.74	52.71	2
ADPLGLQAEQDGVPVFK	892.49	42.55	56.94	2	892.47	36.19	69.14	2
LAAEDVIFIGPDTHAIQAM(+15.99)GDK	776.74	39.96	25.84	3				
LILGLMMPPAHYDAK					557.34	34.35	48.91	3
ASHLPSDFTPAVHASLDK	474.01	23.44	48.55	4				
DETVWEKPFR					436.24	18.92	42.59	3
FAELVYTGFWHSPEC(+57.02)EFVR					792.05	44.00	32.24	3
AAFQLGSPW(+31.99)R	582.81	30.27	30.03	2				
FLDGIYVSEK	585.82	31.71	33.98	2				
M(+15.99)PHQLFIGGTFVDAEGGK	640.67	31.62	29.14	3				
VYVVDVATEPR	624.35	23.96	69.71	2	624.34	17.30	64.97	2
NLEVTAYSPLGSSDR	804.91	31.93	53.72	2	804.91	24.55	57.53	2
PGVVDGIFLPK	571.34	49.87	42.13	2	571.41	43.89	55.35	2
DLYAN(+.98)TVLSGGTTMYPGIADR					1108.58	41.72	30.23	2
DAGQISGLNVLR	621.86	32.80	48.64	2	621.86	25.50	46.17	2
YIYVADVSDK	586.81	21.05	44.1	2				
TGIIFMPGTTQM(+15.99)K	720.88	31.98	22.51	2	720.86	24.51	28.34	2
LNFLQSIAGK	545.82	36.94	46.24	2				
YGIIC(+57.02)MEDLIHEIYTVGK					718.70	57.46	21.9	3
SLDDHSPLPGITIGDIGPK	644.69	42.35	52.56	3	644.69	35.72	51.55	3
VALVYGQMNEPPGAR	801.43	26.77	61.98	2	801.41	19.36	68.15	2
FAPPQPAEPWTFVK(+14.96)	543.96	37.73	22.76	3				
YATALYSAASK	573.31	15.54	52.84	2	573.31	12.71	62.64	2
VIISAPSADAPMFVMGVNHEK					738.37	33.89	50.39	3
TTLTAAITK	460.29	15.14	30.43	2				
IDAMHGVVGPYVK	462.60	23.90	52.17	3	462.59	16.94	60.81	3
FHDYLGDSWGILFSHPR					683.00	42.04	58.83	3
DLMSFGSVWILR					712.38	58.10	69.93	2
EGTVLLADNVIYPGAPDFLEYVR	851.14	64.00	51.44	3				
SYELPDGQVITIGNER	895.97	40.37	61.92	2	895.96	34.05	72.15	2

NLILVVR	413.79	26.83	26.8	2				
C(+57.02)AVVDVPFGGAK	610.33	27.52	25.2	2	610.33	20.43	28.09	2
EYLDIDQMIFNR					778.88	47.49	68.27	2
GYSFGHPSSVAGEVVFNTGLAGYPEALTDPAYK	851.19	52.28	32.58	4	1134.60	46.95	40.04	3
EIRPALELLEPIEQK	593.35	41.03	38.2	3				
TMGIDDLTGEPLVQR	822.94	39.92	48.78	2	822.92	33.06	77.4	2
SLAMEM(+15.99)VLTGDR	669.84	30.79	52.31	2	669.83	23.56	48.07	2
LAINN(+.98)GPNSLHGGVK	497.95	16.91	36.56	3				
Q(-17.03)ADTVYFLPITPQFVTEVIK	764.77	67.24	39.43	3	1146.67	64.46	29.91	2
GIRPAINVGLSVSR					480.29	18.03	46.53	3
IIDSLFNTVTDKK	498.63	31.38	48.82	3	498.65	23.16	48.87	3
EAYMGNVLQGGEGQAPTR	626.65	25.98	84.37	3	939.46	18.71	74.19	2
GELSGHFEDLLLAIVR	590.34	60.10	44.15	3				
ALQASALAAW(+31.99)GGK	638.36	27.72	42.18	2				
LLVVSNPVDILTY	723.42	62.95	37.64	2				
FVTTEFEPC(+57.02)FDAADFIR	689.02	56.08	47.32	3	1033.01	52.34	29.82	2
IAQFLSDIPETVPLSAVNR	690.73	52.38	47.78	3	690.73	46.68	60.17	3
ETTDTDTADQVIASFK					871.42	30.47	81.64	2
STDYGIFQINSR					700.86	26.47	64.64	2
AVVLAANHFGR	577.84	16.10	48.05	2				
FLVLNYK	448.77	28.19	27.71	2	448.78	21.72	27.79	2
VLQALEGLK	485.81	24.89	26.17	2				
DVPASGMYFMTYEWLK					969.47	57.40	30.13	2
INLDALITH	505.30	38.19	32.17	2				
QSVESDIHGLR					414.22	12.12	48.53	3
GLEWSLGAISTAR					680.87	35.30	52.71	2
FNVIQPGPIK	556.84	26.94	37.13	2	556.87	19.66	44.29	2
GGC(+57.02)VVNDDSSQEADVLVEDGVVQAVGR					925.45	41.81	24.74	3
IQSLLEGQK	508.30	15.45	32.39	2				
VM(+15.99)EETFSYLLGR	730.87	39.03	43.82	2				
LSGAQAQALGLVNHAVAQNEEGNAAYHR					723.13	24.82	76.55	4
ILTFR					649.42	55.76	27.95	1
LGEYGFQNALIVR	740.41	39.79	57.5	2	740.42	32.97	79.17	2
SVNDIVVLGPEQFYATR	636.69	47.55	55.5	3				
LGLGLEFQA	474.28	47.97	27.28	2				
DGGSTTAGNSSQVSDGAAAILLAR	740.38	40.05	70.19	3	740.37	33.02	69.04	3

MQLLEIITTEK					659.88	37.92	43.95	2
YFPHFDLSHGSAQVK	578.30	27.81	38.15	3	578.34	20.65	52.65	3
MNFLTEDGFEK					665.82	27.73	35.05	2
WFLDPQNLESYGVDPGR					997.01	50.63	59.19	2
WPDFQTVVIR	630.85	43.85	33.06	2				
VQDDEVGDGTTSVTVLAAELLR	763.41	61.54	47.2	3				
HVLVTLGEK	498.31	13.29	48.39	2	498.31	12.19	49.45	2
ENALMPNWLHLPVGYHGR					702.04	37.18	22.01	3
LVQDVVFTDEMAHFDR	641.33	40.96	30.72	3				
FPHFDLSHGSAQVK	523.95	27.57	39.91	3	523.96	20.40	51.99	3
IPHFGYC(+57.02)DEVDLTELVK	679.03	46.54	23.35	3	679.00	40.55	40.53	3
GLN(+.98)SESITEETLK					711.35	19.02	49.29	2
AFALEVIK	445.79	30.31	32.47	2				
AWNIM(+15.99)VLK					495.81	23.93	27.46	2
AAVTSLFAK(+11.05)VKVDEVGGEALGR					743.41	37.84	33.55	3
VVLVLELQGLQK					669.92	38.34	58.16	2
LSGLPSLLTR	528.83	36.05	25.79	2	528.86	29.18	31.53	2
AVGM(+15.99)PDDIIQK	601.82	16.62	36.18	2	601.82	12.94	36.02	2
KVVEAVPVLLSIPGLAAR					611.36	43.64	47.66	3
GIIINISSVADR	629.38	35.98	51.15	2	629.37	28.97	55.16	2
HPEANLC(+57.02)LK					541.30	11.97	42.52	2
LGTPVLQALGDGDFVK	815.47	46.89	59.73	2	815.45	42.84	67.94	2
AN(+.98)NTFYGLSAGIFTN(+.98)DIDK					1032.01	50.82	48.8	2
PGVAIADFVIFPPR	749.94	57.23	48.54	2	749.94	50.66	66.69	2
DTSYLFITGPDVVK	777.93	46.99	58.7	2	777.91	40.96	58.78	2
GAAQNIIPAS(+27.99)TGAAK	699.40	18.97	25.85	2				
DPEAPIFQVADYGIVADLFK	736.74	66.92	71.37	3	1104.62	63.91	64.36	2
WLNENAVEK					551.79	13.13	45.7	2
LATSALEEIVAAGVTPAVK	614.04	52.37	45.62	3	614.05	46.86	70.94	3
LLEAQIATGGIIDPVHSHR					676.35	23.81	28.32	3
WPVELVEK	500.29	30.05	42.88	2	500.29	23.49	45.42	2
TLIVSFLFK					534.38	47.12	37.43	2
VLGTSVE(+21.98)SIMATEDR	543.94	34.97	38.37	3				
AGEIVLITGAGHGIGR					760.95	32.06	41.1	2
LNVKPLAR	455.80	11.94	32.65	2				
TIDWVAFGEIIPR	758.92	58.27	37.24	2	758.92	52.98	64.33	2

LFVLFGAEILK					625.38	52.52	32.21	2
MIFVPSSLNFLSLM(+15.99)EK					936.53	55.39	36.99	2
VVDLMVHMASK	410.57	22.71	23.81	3	410.56	15.89	52.6	3
GPLLVQD(+21.98)VVFTDEM(+15.99)AHFDR	743.03	44.29	30.77	3				
FDEFFSAGC(+57.02)APGSPR	822.88	33.55	38.07	2	822.86	26.69	43.84	2
TPFLLVGTQIDLR					736.94	44.34	46.31	2
ISLGDPAAVFR	573.33	38.47	31.81	2				
FAVYLPPK	467.79	26.98	28.24	2				
LVIITAGAR	457.30	19.88	34.99	2				
VFGLDIQGR	502.79	31.44	31.43	2	502.81	24.51	37.44	2
FDLGQDVIDFTGHALALYR	717.72	63.73	61.06	3				
LAEVALAYAK	524.82	24.35	55.95	2	524.83	17.65	58.91	2
YVYIAELLAHK	440.60	36.89	61.85	3	440.60	30.05	57.84	3
VDPVNFK	409.74	15.07	36.16	2	409.74	12.73	33.75	2
QQNFPVFSR	561.80	23.61	35.99	2				
FDHILYTGNTTVGK	522.62	21.55	44.69	3				
KINLDALITHSLNLDK					603.40	36.34	69.66	3
VPTPNVSVVDLTC(+57.02)R	778.94	34.82	45.6	2	778.93	27.27	60.15	2
TKPYIQVDVGGGQTK	530.97	16.22	25.38	3	530.99	12.68	49.91	3
SC(+57.02)AFAPADVTSEK					691.83	14.09	39.44	2
VLVSLSAGGR	479.79	19.07	42.83	2	479.81	14.35	46.62	2
LNDLEDALQQAK					679.34	22.04	59.21	2
STGGAPTFNITVTMTAK					848.93	29.15	70.69	2
IMEFFFLK					537.81	46.65	45.26	2
IPWFQYPIIYDIR					862.49	56.11	57.36	2
QAVSMFLGAVEEAK					740.39	34.45	62.99	2
A(+42.01)GSGFESLEQC(+57.02)LEK					798.87	43.06	32.25	2
IITMLPTSINAIEAYSGAN(+.98)GILK					797.79	56.25	45.34	3
LTGTIQN(+.98)DILK	608.86	25.87	37.48	2				
AEVAR					545.32	63.17	23.45	1
WLPQNDLLGHPK	473.27	25.73	40.24	3	473.28	17.54	53.81	3
PALAQPLIQNVK	646.41	27.04	39.11	2	646.40	19.22	43.54	2
YYTLEEIQK	593.82	23.61	53.71	2	593.82	17.13	53.4	2
NFLEMHQL	516.26	32.08	39.5	2	516.29	25.87	38.28	2
AAQGLGAQGLLLSR					677.87	23.14	49.89	2
YISGFGNEC(+57.02)ASEDPR					851.38	14.63	46	2

Q(-17.03)IFLGGVDR	494.28	42.84	25.55	2				
FFESFGDLSTADAVMNN(+15.99)PK	702.68	42.58	38.79	3				
SEVTFLAPVTRPDK	520.64	25.70	41.65	3				
DQFPEVYVPTVFENYVADIEVDGK	925.15	66.51	32.83	3				
LVNNK					587.35	13.08	23.82	1
GIGFVIVR	430.78	30.45	31.94	2	430.79	23.75	40.14	2
YAASSYLSLTSSDWK					839.91	32.51	69.04	2
TLHSLLDLLNENFNR					600.37	49.23	50.31	3
VM(+15.99)IGEHIDEKPLPTLEHPIIPADYVAIK	631.77	41.95	34.56	5	631.73	35.69	39.94	5
GLLSSLDHTSIR					649.85	19.69	55.88	2
IAIC(+57.02)GAISVYNR					668.83	23.10	48	2
FAAFEEPELLAQDIR	583.66	50.02	35.92	3				
VLITTDLLAR	557.86	36.35	35.99	2	557.90	29.85	26.61	2
DILTAIR					401.25	17.78	32.23	2
FLFGIPYPDSDVLFR					893.48	59.66	34.46	2
MDATANDVTSDR					648.28	11.92	61.13	2
QGIQYVFQTR	620.34	26.86	41.17	2				
VLLVSPELQAAVEEVLPSLK	712.11	66.58	54.99	3	712.10	62.39	66.31	3
LPFPPSYVPVM(+15.99)FSELSDR	699.71	55.53	51.7	3				
PSSIEAIPSIIEK	692.41	36.03	35.88	2	692.40	29.28	40.2	2
HEPVGVC(+57.02)GQIIPWNFPLLMQAWK					907.47	59.55	32.93	3
GILIGIQQSFR	616.37	37.12	36.17	2	616.37	30.43	45.64	2
M(+15.99)QLLEIITTEK	667.88	35.83	28.41	2				
LEEMLKPLVEEGLR					552.67	31.29	55.51	3
NMQDMVEDYR					650.76	17.93	60.97	2
LGSIAIQGAIEK	600.37	25.39	52.35	2	600.39	18.43	53.73	2
NSYLEVLLK	539.82	39.41	50.46	2	539.84	32.93	53.7	2
VVAFTGDNPASLAGMR					803.41	28.39	76.28	2
SALALVTGAGGGIGR	650.39	32.08	49.42	2	650.36	24.47	71.39	2
VGLAEAFAQVLVR	686.91	54.33	28.96	2	686.90	48.79	60.5	2
EDAQVAAEILEIADTTSGDK					1038.54	49.60	48.18	2
FSSPTTIATVMNLSK					798.95	34.72	66.35	2
LLFGK	577.37	16.35	27.2	1				
QFEHLDVTMR	425.89	20.78	23.9	3				
ELEEIVQPIISK	699.42	37.68	50.54	2	699.40	30.55	57.08	2
IDYIAGLDSR					561.81	21.38	43.54	2

VLEVYTTQPGVQFYTGNFLDGTLK	897.49	62.28	42.04	3				
YGLLILMK					475.82	35.20	43.58	2
LYC(+57.02)IYVAIGQK					664.36	28.00	46.4	2
LLQAATNYR	525.30	14.29	32.22	2				
VTIAQGGVLPNIQAVLLPK					966.10	50.43	72.18	2
LLHDSGLNVIVLEAR	550.33	35.99	43.04	3	825.00	29.97	65.4	2
FYTEDGNWDLVGNNTPIFFIR	840.10	63.20	45.92	3	840.08	57.98	74.36	3
Q(-17.03)PIASLPGVAR	546.32	38.33	29.14	2				
DWAHYLK					466.75	16.42	40.52	2
TLDPM(+15.99)AIFFTSGTTGFPK	649.68	52.72	42.48	3	974.04	47.14	33.48	2
GTFAALSELHC(+57.02)DK	483.58	23.04	28.14	3	724.85	17.10	41.86	2
VDIVAINDPFIDLHYMVY	713.05	65.51	26.57	3				
DQGTYEDYVEGLR					772.85	27.46	66.41	2
LLGQFTLIGIPPAPR					796.98	47.18	58.68	2
IVSQLLTLMDGLK					715.92	51.52	55.53	2
DTTPDELLSAVM(+15.99)TAVLQDVK	721.39	66.72	39.9	3				
SVGMIAGGTGITPMLQVIR					951.07	44.98	74.21	2
LHFAVASR	450.77	13.45	44.98	2				
SATQSAEITIPVTFQAR	607.34	38.58	33.71	3	910.49	31.67	48.04	2
IPSAVGYQPTLATDM(+15.99)GTM(+15.99)QER	766.72	28.30	43.93	3				
FAGTWYAMAK					573.34	22.34	51.42	2
NLDLDSIIAEVKAQYEEIAQR					806.77	62.19	52.5	3
SALGK					475.33	19.74	25.07	1
YLPAFENVLK	597.33	38.82	42.82	2	597.35	32.21	41.7	2
GAAFLGLGTDSVR	632.35	33.04	32.91	2				
VATPVDWK					458.28	14.29	38.9	2
GTLGK					475.33	20.10	25.2	1
VEQIAAIAQELNELDYYDSHNVNTR	727.12	52.75	60.48	4				
WGTDEAQFIYILGNR					891.97	47.84	55.97	2
Q(-17.03)GEIFLLPAGVPHSPQR					915.02	40.94	30.1	2
LGEHNIDVLEGN(+.98)EQFINAAK					738.05	30.53	36.91	3
SMLAR					577.39	41.64	22.77	1
APNDFNLR	473.75	15.76	50.76	2	473.76	13.13	47.54	2
AMIVEAYPK	511.28	19.29	24.16	2				
SLYSFIK	429.25	28.58	26.01	2	429.26	21.60	34.52	2
IDATSESALASR					610.82	12.49	70.23	2

SVLLEMQK	474.27	19.25	28.33	2	474.28	15.02	34.77	2
FFPLER	404.73	26.18	26.09	2	404.73	19.72	26.65	2
IHFNPPLPMMR					451.57	27.02	36.35	3
YVASYLLAALGGNSSPSAK					935.05	42.24	57.05	2
EIFLK					649.36	40.06	22.66	1
FLFPFFDSAYQGFASGSLEK					1129.60	61.09	68.57	2
YEELRVTAGR					597.33	15.68	29.4	2
DVVDYIIFGTVIQEVK	613.36	66.02	75.46	3	919.52	61.68	58.78	2
ILTSLIEK	458.80	23.16	29.73	2	458.81	17.53	31.17	2
IGPVPAISGALK	561.86	32.04	27.25	2				
PLTPGVSQGPQIDKEQYEK					705.38	13.85	31.77	3
DQE(+37.96)GQDVLLFIDNIFR	654.01	67.24	22.63	3				
LEQFVSLLMASIPVSGHTG					662.68	58.94	40.01	3
DGVVEITGK					459.26	12.97	45.53	2
YAM(+15.99)QM(+15.99)EQLN(+.98)GVLLHLESELAQTR	903.14	53.40	30.59	3				
GTHMENVYDFYKPDVTSEYPLVDGK	726.86	40.65	55.77	4	726.85	34.10	59.65	4
VGVPR					527.34	64.59	24.63	1
NTGTEAPDYLATVDVNPK					952.99	25.56	65.3	2
S(+42.01)SSAMPDVPAPLTNLQFK	649.01	56.80	38.09	3	973.01	51.24	39.2	2
LKGEMMDLQHGSLFLQTPK					725.06	27.81	58.16	3
AADNIGYPVMIR	660.36	30.85	47.15	2	660.34	24.00	58.01	2
YGLSPSPVAPQMFGNAGK					910.96	30.52	66.06	2
AIPDLTAPVAAVQAAVSNLVR					692.73	62.54	50.36	3
HIDC(+57.02)AHVYQNEEHVGQAIR	569.80	14.16	48.33	4				
NSAFPTGTIVLAPSGWTTH					979.04	43.02	49.97	2
PAFIFDGR	461.77	27.51	37.27	2				
TSAC(+57.02)FEPSLDYM(+15.99)VTK	882.92	31.98	28.5	2	882.91	24.74	41.43	2
TLATLNPESSLFIIASK					903.04	46.55	60.88	2
DWMTESFSSLK					665.81	38.98	37.82	2
KGTVMTFL					448.77	23.34	25.27	2
GYVPVAPIC(+57.02)TDK	660.35	25.03	30.55	2	660.34	18.09	35.24	2
EEIIPLAAEYDK					695.86	28.37	27.65	2
MFLLQGAQMLQMLEK					890.97	57.08	64.22	2
FLTVLC(+57.02)SR					498.27	19.28	26.53	2
WTSPQVIK					479.80	13.96	39.8	2
HIEIQVLGDK	576.34	19.74	37.56	2	576.33	14.72	47.51	2

NALTTQM(+15.99)YHDIIAALQAASK					726.06	42.68	31.71	3
YGIDEYLELK	621.83	40.77	41.04	2	621.84	33.78	54.64	2
NENTFLDLTVQQIEHLNK	719.40	51.91	29.24	3	719.39	46.40	45.32	3
VATVSLPR	421.77	15.92	31.72	2	421.77	14.01	34.15	2
AMLSTGFK	427.74	16.71	39.97	2	427.73	13.42	42.49	2
TPGLSPAEEQLALK					727.40	21.61	59.97	2
ALGGASGGYTTGPGALVSLLR					959.53	44.56	84.87	2
VPFSLLR	416.26	29.83	32.4	2				
NQILNLTTDNANILLQIDNAR					789.76	50.07	53.18	3
LEDTLWTGLTDTHVQMPMAITAENLAVK					1033.57	54.21	64.23	3
ILLANFLAQTEALM(+15.99)R					860.50	50.75	29.13	2
KQTALVELLK	571.87	23.45	36.13	2	571.87	16.58	45.78	2
LDMPYLDAVVHEIQR	600.33	54.10	34.02	3	600.35	48.79	51.27	3
LWATNLDPELVRPTLER					675.04	36.35	32.59	3
AIFQGIAAK	459.78	20.89	26.04	2				
LPVLLEDSVLC(+57.02)AIAK	820.98	56.95	26.74	2	820.98	52.07	33.8	2
AILNYIATK	503.81	25.16	37.9	2	503.82	18.36	46.4	2
LAPPK					525.33	62.24	21.79	1
LTLSALVDGK	508.82	33.11	44.15	2	508.84	26.21	51.71	2
GLVGEIIK	414.77	24.44	28.62	2	414.78	18.56	27.26	2
LTAVPTLLK	478.32	29.16	30.38	2	478.30	21.32	38.19	2
NIEDVIAQGIGK	628.85	39.02	48.5	2	628.85	32.05	60.65	2
IFTSIGEDYDER					722.84	19.93	63.26	2
EADIDGDGQVNYEEFVQMMTAK	830.73	58.16	79.74	3	1245.64	53.44	64.02	2
LLVVSNPVDILTYVAWK					965.61	61.54	59.95	2
IAQFLSD(+21.98)IPETVPLSAVNR	698.05	52.53	43.26	3				
EQLGPVTQEFWDNLEK					967.00	44.69	47.38	2
VSKPTLNEVVIVSAIR	575.70	35.03	31.82	3	575.71	27.19	45.92	3
ADEAYLIGR					504.29	15.15	39.46	2
GFAQPVAVFLGVPF	724.91	66.91	45.02	2	724.91	63.43	40.96	2
GILIGIQQSFRPQF					802.45	44.14	48.9	2
YIAPTILTDVDPGTK	802.45	39.25	46.59	2				
N(+.98)LDLDGIIAEVK	650.87	54.52	29.04	2	650.86	48.94	43.98	2
DSTLIMQLLR					595.36	46.69	47.25	2
MDATANDVPSPYEVR					832.89	18.56	48.64	2
AFMTLVDELIAEQK	536.64	58.75	51	3	804.43	53.91	70.36	2

EILNISGPPLK	590.87	33.50	47.45	2				
GIPPYPYTG	482.75	28.83	31.87	2	482.79	22.47	22.59	2
VS(+27.99)LELGGK	415.75	16.96	22.44	2				
STLLINQPQYAWLK					837.96	37.91	44.17	2
LFYGNVIER	555.81	27.08	46.19	2	555.84	20.28	52.91	2
T(+42.01)DQAAFDTNIVTVTR	847.44	43.91	39.34	2	847.43	36.27	40.01	2
AC(+57.02)LGEPLAR					493.78	12.88	26.85	2
VALTGLTVAEYFR	720.42	48.79	63.22	2	720.41	42.00	71.02	2
RPQFLGVAEQLHNEGFK	493.28	29.35	49.68	4	657.34	22.89	48.22	3
VDLLSFTGSTQVGK	726.40	39.86	63.44	2	726.39	32.61	72.36	2
TVIIEQSWGSPK					672.86	19.32	57.05	2
YVTLVPSNLPHAVVQDTK	661.05	47.45	29.63	3	661.03	27.21	40.31	3
DIPVPEELVFTVDEK					865.46	50.17	41.55	2
GTVRPAGDFL(sub N)PDADAK					543.95	12.01	27.81	3
SVIDYQTHFR	422.56	18.73	28.69	3				
IILGGFSQGGALSLYTALTTQQK					789.77	54.96	74.29	3
STWLILHYK					580.89	22.62	48.39	2
FLNTLTLGMIR					639.86	40.11	43.47	2
FSLDQLITHVLPLEK	585.02	62.32	43.3	3	877.03	55.23	66.11	2
DFPDFNPSQDAETLYNAMK	735.02	60.83	31.51	3	1102.05	55.42	67.04	2
SILLSVPLLVVDNK					755.48	51.47	47.51	2
QQVPMVEIDGMK	687.86	31.04	27.25	2				
EALELLK					408.25	17.20	30.34	2
SLQDIIAILGM(+15.99)DELSEEDKLTVSR	897.83	63.89	31.41	3				
NGVAIVDIVDPLISLSGEYSIIGR	834.14	66.84	82.56	3				
LLEEWTYVSK					634.34	26.61	48.48	2
AGIAHLYGIAGTTNVTGDQVK	696.05	28.61	29.1	3	696.04	21.45	55.63	3
LALDLEIATYR					639.34	35.83	56.72	2
LIPDDVMTR	530.29	23.46	30.63	2	530.30	16.92	38.84	2
PSFIHSQK	472.27	53.27	27.66	2	472.27	34.82	40.46	2
LLKPGGVLTYC(+57.02)NLTSWGELMK					794.12	46.28	28.13	3
AIYQQAQC(+57.02)LLK	668.37	38.06	23.97	2	668.33	20.92	22.67	2
VYNEAGVTFT(+21.98)	561.77	28.43	28.49	2				
IFNLYPR	461.76	27.80	28.19	2	461.78	21.25	37.12	2
HELLPNLNDLVAVGR	554.00	44.93	57.74	3	554.02	38.76	62.47	3
LGFEPLAYK	519.30	31.73	52.7	2	519.32	24.64	53.44	2

VISTM(+15.99)SVGVDHLALDEIK	648.36	34.80	29.33	3				
SATQSAEITIPVTF	732.90	52.02	30.04	2				
LMITGAAPVSATVLTFLR					931.08	56.01	65.32	2
AADYAAQAAQLR	624.83	18.52	56.76	2	624.84	13.69	72.7	2
SPILLGSQAH	511.79	17.85	27.08	2				
AISFVGSNQAGEYIFER	944.50	43.15	47.3	2	944.48	38.92	74.38	2
TLYSSAENEPPVPLVR	591.32	33.53	64.26	3	886.47	27.05	65.89	2
WVAPFTSGDK					554.33	19.26	36.93	2
MFLSFPTTK					536.26	28.79	49.22	2
LSLC(+57.02)GEESFGTGSDHIR					622.30	18.59	42.85	3
TVIQAEIDAAAELIDFFR					674.72	64.76	33.93	3
LDDKDYFLFR					666.32	33.94	47.27	2
VETSDEEINDLHQR					842.89	12.01	74.6	2
LN(+.98)DGHFIPVLGFGTYAPPEVAK	781.76	53.80	34.92	3				
FFYGNAIER	558.80	24.36	31.79	2				
LVTLPVSFAQLK					658.40	40.02	39.34	2
EGDVLTLLESER					680.85	37.26	43.88	2
HLVDEPQNLIK	653.38	20.29	60.01	2	653.34	14.53	55.98	2
TLGIDFIDVATK	646.88	46.44	55.47	2	646.85	41.27	60.95	2
GQILTM(+15.99)ANPIVGN(+.98)GGAPDTAALDELGLSK	947.51	54.35	30.68	3				
LLLIGDSGVGK	536.34	30.53	28.6	2	536.37	23.63	28.33	2
SVAGEIVLITGAGHGIGR	569.67	38.07	60.38	3	854.01	31.95	63.41	2
IITHPNFN(+.98)GN(+.98)TLDNDIMLIK					762.40	40.66	48.77	3
VPAENVLGEVGGGFK	736.90	35.98	55.59	2	736.89	28.64	65.06	2
VLSAS					476.26	20.23	21.59	1
QFLLAAEAIDDIPFGITSNSDVFSK	900.15	65.76	35.99	3	900.15	61.43	55.83	3
EQADFALEALAK					653.31	28.32	53.45	2
NLLEWLNK					515.31	35.62	30.73	2
LTPIGYIPDEDALDLR	900.99	49.56	29.58	2				
ILMAAPGMAIPPFIMNTLEK					720.06	59.71	42.36	3
AQIHDIVLVGGSTR	489.29	22.29	30.1	3	733.42	16.22	57.63	2
LGDVYVNDAFGTAHR	545.61	26.63	68.14	3				
SGPPVSELITK	564.33	22.81	39.81	2	564.37	16.96	50.31	2
ALAEALM(+15.99)GLGYR	640.86	35.75	52.74	2	640.83	28.20	50.68	2
LSSVDPS(+27.99)HAAVVNR	493.93	14.52	25.84	3				
ASAELALGENNEVLK					779.42	20.67	56.1	2

GVM(+15.99)LAVDAVIAELK	722.92	53.59	34.05	2	722.92	48.50	45.68	2
AVLGMAAAAEELLGQHLVQGVISVPK					867.83	57.94	72.35	3
SEGGFIWAC(+57.02)K					577.80	21.04	46.31	2
AAVLEVM(+15.99)TAFR	612.34	38.71	41.96	2				
TLVLLDNLNLR	642.39	53.77	32.61	2				
YPNLISYSYMPR					752.36	33.45	45.18	2
LQAFQGYQVTM(+15.99)K	715.38	23.01	46.55	2	715.38	16.31	42.07	2
APLAEQWDLMTMK					767.39	37.43	53.69	2
IISYWR					419.22	15.99	24.61	2
LATLNVQGQEFESGGSVIHPLNLHMK					705.63	33.13	57.7	4
VHLVGIDIFTGK	433.60	39.86	47.64	3	433.60	31.98	51.23	3
NVSLGNVLAVAYATQR					838.49	41.33	58.31	2
IGAIHSLIFGGFASK					506.66	32.42	37.26	3
PVILPPEVAIGALGTIK	563.37	56.55	24.01	3	563.42	51.13	42.25	3
FFESFGDLSTAD(+37.96)AVMNNPK	710.00	48.94	45.69	3				
NELESYAYSLK	658.84	29.86	47.69	2	658.82	22.70	45.97	2
VGDYGSLSGR	505.76	13.48	40.33	2				
IFLER					677.40	13.27	29.48	1
NPWSMDENLMHISYEAGILENPK					896.77	47.61	73.32	3
Y(+127.06)FPHFDLSHGSAQVK					465.76	30.66	25.47	4
AGPNIYELR	516.79	21.62	44.43	2	516.80	16.13	44.51	2
DNEVTLFK					483.27	18.46	41.55	2
LLEEGSKPEEIDEVLEEFGFK	813.10	61.64	37.97	3				
AEYLGSC(+57.02)LLHK	430.91	21.47	25.77	3	645.83	15.59	31.87	2
Q(-17.03)TQEYEALLNVK	709.87	46.13	38.62	2	709.86	39.56	39.49	2
EITALAPSTM(+15.99)K	589.32	15.80	38.44	2	589.33	12.82	35.34	2
NIIGYFEQK	556.31	31.35	27.77	2	556.32	24.52	24.75	2
LFLQGPK	401.76	19.08	28.18	2	401.74	14.37	29.54	2
LGEHNIDVLEGNEQFIN(+.98)AAK					738.04	31.14	45.78	3
LQDWALQQPHK					455.25	13.19	52.2	3
ALEALVAK	407.76	16.57	30.87	2				
EELTAVMSFLTQK	748.90	53.98	43.63	2	748.90	48.21	60.07	2
FFALAHTVR					531.33	31.11	37.82	2
KPPVK					568.32	12.39	20.89	1
AQYEEIAQR	554.29	12.71	39.09	2				
TALYVANLIK	553.34	35.04	35	2	553.38	28.00	38.77	2

FSEAHSEFLK	597.81	38.43	46.55	2				
GPAGK	429.25	17.12	22.97	1				
LGAGYPMGPFELLDYVGLDTTK	786.41	66.30	65.1	3	1179.14	63.01	63.88	2
AGPEADAQFHFTGIK	530.28	26.03	25.82	3				
YAASSYLSLTS(+27.99)SDWK					853.92	33.68	44.52	2
LLVVYPW(+31.99)TQR					653.84	34.16	31.07	2
ESLIDGIK					437.75	16.64	33.4	2
VGNPWDSNVLYGPLHTK					632.99	30.64	65.41	3
LASYLDKVK(sub R)ALEEANTELELK					793.10	32.72	37.67	3
IQTVSFAGR	489.78	16.99	23.26	2	489.80	13.38	32.65	2
FFFGGYELSR	611.81	42.06	28.39	2				
IINEPTAAAIAY	623.84	35.38	31.35	2				
IILLAEGR	442.79	22.95	26.39	2	442.79	17.62	31.2	2
DFLIPVAWYEDR					762.39	54.37	49.38	2
HGLGR					539.32	14.80	21.39	1
PGGSFSIEEVEVAPPK	821.94	35.97	40.63	2				
MGFPEAAR	439.72	15.99	34.95	2				
LYELAADLQLPDLQLK	615.03	58.30	35.54	3				
QPLVIYSSPGVMLPK					814.98	35.01	41.67	2
LNSFLGDDIFLR	705.39	50.51	46.96	2	705.37	44.49	56.4	2
MVTEEDIQFYVQEFK	635.99	53.68	52.12	3	953.48	48.14	55.84	2
C(+39.99)VTEPVAGSDVAGIK					743.36	29.84	30.2	2
VNPDTGYINYDQLEENAR					1056.02	26.55	46.23	2
GTGIVSAPVPK	513.31	16.61	26.78	2				
LVSGIAHPGPAAGVYETTQHFNDIK					656.33	22.82	45.84	4
KESYSIYVYK	427.24	17.18	25.23	3	640.34	13.31	44.9	2
FFNEVFK	465.75	29.20	45.37	2	465.75	22.53	38.34	2
M(+42.01)(+15.99)FLLQGAQMLQMLEK					920.00	64.98	52.64	2
AYQIDTVINLNVPFEVIK	692.73	61.18	32.17	3	1038.61	55.70	48.8	2
ILNSTK					675.50	70.82	20.9	1
VVVLVATVR	478.32	23.48	29.67	2				
TLPQAEALDR					557.32	13.27	36.22	2
GALPLDTITFYK	669.88	44.21	32.28	2	669.86	37.81	50.01	2
KEYGGLDVLVNN(+.98)AGIAFK					637.02	38.05	28	3
AVTIASAVNC(+57.02)PLYVVH	857.46	41.20	34.54	2	857.47	34.51	31.03	2
YGGAEVDELGK					569.28	12.84	67.76	2

NHLLHVFDEYK	472.26	21.87	61.76	3	472.26	16.89	59.58	3
IGAFSYGSGLAASFF	747.88	64.12	36.66	2	747.89	59.10	55.94	2
SPDMLEIEFK					604.83	31.62	48.89	2
EGLYITEEIYK					679.35	28.85	52.06	2
LPYSVVR	417.26	16.56	25.49	2				
ADTLTDEINFLR					704.35	38.13	60.88	2
YDGIILPGK	488.29	25.44	50.58	2				
EPFTFPIK	489.78	34.46	23.32	2				
EIVTNFLAGFEA	655.85	62.46	43.64	2	655.84	57.43	57.15	2
FWLFGGNER					563.33	35.80	40.17	2
KTAFDAFPDQVAIQLNDTHPSLAIPELMR					810.44	51.61	43.58	4
TLLEGEESR	517.27	13.13	29.05	2				
GLLPEELTPLILATQK	579.37	63.15	35.4	3	868.53	53.68	64.42	2
IGASFLQR	446.27	20.83	45.56	2	446.28	15.12	40.47	2
IHQVLAPSC(+57.02)LDSFPLLSAYVAR					819.80	49.77	45.92	3
AAVQQLQAEGLSPLFHQLDIDDR	855.47	51.16	53.97	3	855.45	45.39	56.82	3
LAMQEFMILPVGAENFR					656.00	54.56	48.73	3
TPGFDVAGIIEAVGESVSAFK	698.72	67.28	24.12	3				
TVIVTPSQR	500.80	12.67	33.37	2				
TC(+57.02)GFDFTGAIEDISK	830.89	48.98	51.12	2	830.89	43.50	63.12	2
EFT(-18.01)PVLQADFQK	702.89	49.54	23.55	2				
FITATSAAR	469.27	12.57	28.9	2				
YSHLVDVGQVGVNVPIPVPLPMFSFTGSR					1038.30	59.88	38.2	3
GIYETPAGTILY	649.34	46.28	42.17	2	649.32	40.21	33.51	2
LAVDAVIAELK	571.36	44.49	27.22	2				
PHFDLSHGSAQVK	474.93	27.77	40.6	3	711.87	20.42	63.23	2
TYFPHFDLSHG					440.89	25.39	38.04	3
DALYFLDDK					550.29	32.21	40.39	2
AGVAN(+.98)ALAHR	490.77	13.63	31.48	2	490.78	13.16	30.26	2
VVNVSSFVSVN	575.82	39.92	40.96	2				
YVLGNPLTPGVSQGPQIDKEQYEK	887.49	33.84	34.71	3	887.47	26.55	49.99	3
PYNPSMSKPDAWGVTK					593.33	15.15	64.02	3
FGN(+.98)EVVPVTITVK					702.38	32.91	35.94	2
NLYAEQLSGSAFTC(+57.02)PR					907.44	26.23	33.82	2
AAVTAFW(+31.99)GK	491.76	16.42	27.68	2	491.78	19.34	41.49	2
EAILELITS(+27.99)R	586.85	44.74	25.43	2				

LASYLDKVR					532.81	12.43	40.14	2
GVSEIVQN(+.98)GK					516.29	12.24	38.58	2
VSQLYMNPK					540.31	12.48	49.16	2
TNEQIHQLVAAYK	505.62	20.05	63.35	3	757.91	14.49	77.25	2
M(+15.99)AGTLPEYR	527.27	13.97	38.45	2				
THHQAVNFNIFEGMVCHGVPVVTISRG					738.14	39.24	31.7	4
LLKLDLK	421.78	27.12	22.8	2	421.79	20.91	26.97	2
EAYPGDVFYLHSR	518.60	29.14	35.67	3	518.60	21.95	48.06	3
DLYANTVLSGGTTMYPGIADR	739.06	48.45	72.75	3	1108.07	42.42	57.59	2
NQVAMNPTNTVFDAK	825.41	26.87	25.43	2				
GGETVLVSAAAGAVGSIVGQIAK	685.73	64.56	49.18	3	685.72	59.29	83.25	3
YVISAVPPVLGMK					687.38	36.18	49.32	2
SLMPVVN(+.98)FGPGPAK					707.87	31.72	32.31	2
LPGTIYTAAEEIK	703.39	32.42	52.76	2	703.40	25.63	58.37	2
LPPGPFPLPIIGNL					722.95	63.54	23.43	2
SFFEPER					456.24	14.85	27.94	2
AVNTLNEALEFAK	710.40	36.69	66.05	2	710.38	30.82	63.57	2
IVGGNAAQLAH	525.80	13.67	22.52	2				
FYALSAR	414.24	17.58	25.15	2	414.23	13.59	30.59	2
VC(+57.02)NLIDSGTK	553.80	14.12	31.21	2				
VEIIANDQGNR					614.82	12.17	51.62	2
IVIFTQGR	467.29	21.04	24.67	2	467.28	15.69	29.33	2
ISVAGVTSGNVAYLAH	779.94	35.78	46.41	2	779.94	28.46	56.81	2
YKPESDELTAEK					705.36	11.90	40.76	2
SPYLYPLYGLGELPQGFAR					714.39	54.19	49.4	3
PLFVNVNDQTNEGIMHESK	724.70	30.21	24.77	3				
AVGVPALGFSPMNR					708.37	31.50	61.35	2
IGISGDSAGGNLAAAVAQQLLEDPDVK	870.49	62.09	55	3	870.48	56.62	43.56	3
GYSFSLTTFSPSGK	739.87	40.41	39.07	2	739.89	33.09	73.64	2
T(+79.97)DQAAFDTNIVTVTR	577.96	43.95	23.6	3				
FVAVTSTN(+.98)AAK	555.30	13.99	35.53	2				
HQLPFTPGMEFSGMVLETGTDVSTVK					936.82	46.18	58.53	3
KYSHLVDVGQVGVNVPIPVPLPMFSF					947.22	61.66	50.54	3
LSAIQHDQPM(+15.99)KPLDR	441.99	11.71	33.91	4				
YQVQTQENYEAFMK	889.93	30.44	61.48	2	889.92	23.45	65.29	2
VLNNMEIGTSLFDEEGSK	661.67	43.66	31.54	3				

DC(+57.02)GDEAAQWFTSFLK					887.92	59.17	46.68	2
LEDTLWTGLTDTHVQMPM					1044.53	52.98	48.32	2
LAQDGAHVVVSSR	446.93	11.74	58.17	3	446.93	11.84	51.05	3
NTQIIIQEESGIPK					785.44	20.33	48.33	2
DYLHLPPEIVPATLR	578.68	47.60	35.81	3				
GITWGEETLMEYLENPK					670.66	53.97	55.35	3
VAGVANALAHR	539.82	15.42	53.23	2	539.80	12.42	45.98	2
FAGGSLEM(+15.99)LQQM(+15.99)ISK	836.42	35.14	37.62	2	836.44	28.07	43.83	2
VSPETVDSVVVGNVMQSSSDAIYLAR	908.49	56.44	63.72	3	681.59	52.50	78.47	4
SLAAEWGK					431.23	13.33	31.38	2
IIGVDINK	436.28	19.14	31.51	2	436.28	14.54	32.65	2
QVITLLNELK	585.88	38.88	38.53	2	585.92	32.68	41.55	2
PMFVVNTNVPR					637.32	21.92	35.01	2
FYAISAR	414.24	17.58	25.15	2	414.23	13.59	30.59	2
GVVNVLPGSGSLVGQR	769.95	34.55	55.69	2	769.93	26.21	56.22	2
VLVEPDAASGVAVM(+15.99)K	751.41	23.80	46.04	2	751.41	16.75	47.35	2
TVELPPLK	448.78	23.08	30.61	2	448.78	17.08	35.21	2
IITFR					649.42	55.76	27.95	1
LISEVIGER	508.30	21.49	34.59	2	508.31	15.82	36.27	2
QAVLGAGLPISTPC(+57.02)TTINK					971.04	31.56	47.13	2
ILFGK	577.37	16.35	27.2	1				
SLNNQFASFIDKVR					819.96	32.51	62.91	2
LTQSNAILR	508.32	13.73	42.56	2	508.28	12.33	49.27	2
GAAVELDLQR					536.32	15.77	43.12	2
IIEEAPGPGIKPEVR	535.66	19.34	50.33	3				
ALVTGAGK					716.44	51.54	23.15	1
GLVLPM(+15.99)ALELVTVLVGSPR					660.72	63.68	36.73	3
MTWISPVTLK					588.39	32.54	46.73	2
MMADEALESGLVSR					754.86	26.46	71.22	2
VVINVPIFK	514.84	39.38	24.14	2	514.87	32.75	30.63	2
IPEDEIWLPEPESVDVPAKPITTTFLQR					1074.28	51.09	37.51	3
ADM(+15.99)VIEAVFEDLNLK	574.98	60.24	33.16	3				
DFLLQQTMLR					632.84	36.35	45.11	2
QISNLQQSISDAEQR					858.93	17.75	73.69	2
MAGTLPEYR	519.27	16.77	48.68	2	519.26	13.12	46.17	2
HAAGNFYINDK					625.32	12.02	44.8	2

FAHTNVESLVNK	453.59	16.56	46.44	3				
AFYPEEISSMVLTK					807.92	41.39	53.48	2
IKENIQVFDFELTPEDMK	732.71	46.54	48.1	3	732.71	43.96	68.77	3
LQLETEIEALK	643.88	38.23	52.41	2	643.87	31.43	41.6	2
VAVALTLLR					478.32	28.12	42.85	2
YIQDITASVLK	625.87	33.52	48.79	2	625.87	26.43	49.04	2
FSIDVFEETR					621.82	33.86	45.9	2
VPASR	529.30	63.10	26.05	1	529.33	57.43	25.26	1
TPFGAH(sub Y)GGLLK	549.32	16.70	36.98	2	549.34	12.77	39.95	2
LPVQLQR	427.27	15.77	24.29	2				
FMANLMK					427.74	15.92	33.37	2
FNFATDVIDHWAGMEK					627.65	46.01	50.39	3
TLADVLVQEVIK	664.42	53.35	33.06	2				
YVWLVYEQEGPLK					812.41	38.26	65.4	2
SGELAVQALEQFATVVEAK	664.05	64.20	78.94	3	995.56	59.12	64.44	2
DIIALNPLYR	594.35	43.36	47.64	2				
EIFIK					649.36	40.06	22.66	1
SDDVIN(+.98)ASGYR					599.32	13.66	32.45	2
APLAIAAAVEQALK	683.43	52.62	59.99	2	683.40	46.12	69.85	2
TIHLTFVPDEEIGGHQGMELFVK					650.09	40.77	57.69	4
Q(-17.03)EYFVVAATLQDVIR	867.97	66.77	41.23	2				
IITHPN(+.98)FN(+.98)GNTLDNDIMLIK					762.40	41.69	47.16	3
SLRPESLHQVSFLFSDR	505.29	36.30	33.31	4	673.35	28.39	60.04	3
ATGYPLAFIAAK	611.85	38.11	41.53	2	611.89	30.96	58.49	2
GC(+57.02)DVVVIPAGVPR	669.88	31.57	28.79	2	669.84	24.21	39.74	2
GGVLPNIQAVLLPK					709.96	43.74	42.95	2
IQYHEHVTEGFENMPAAFIGLLK	661.86	51.34	51.12	4	661.83	45.94	66.21	4
GFLDTMLIEM(+15.99)AK	692.87	47.00	50.25	2	692.86	40.59	46.07	2
QTFQELFK	520.79	29.29	29.45	2				
VEISYTPSDGSPK					690.34	13.46	37.34	2
N(+.98)DLMEYAK					492.74	18.83	29.74	2
AFVVLAPHFLSR					452.94	31.69	56.78	3
LQLWDTAGQER					658.83	19.52	45.84	2
ITLPVDFVTADKFDENAK					675.02	38.12	39.63	3
VINEPTAAALAYGLDK	823.46	37.29	44.12	2	823.46	30.58	55.24	2
YMLSIVQDILR					675.87	52.30	51.83	2

ELEALISDR					523.30	18.51	38	2
TGKPNPDQLLK	404.24	12.83	56.15	3	404.23	12.04	53.87	3
ILVTGGSGLVGR	564.85	23.90	24.98	2				
TDVFIRPK	488.30	13.04	29.28	2				
MNQDPVGDEVLHFLLK					619.02	49.24	58.75	3
VAGGPQM(+15.99)IQLSLDGTR	829.95	30.19	31.72	2				
THPGQNQLFADLSR	528.62	22.84	33.25	3				
STN(+.98)GDTFLGGEDFDQALLR					1029.01	46.98	31.86	2
LPSNVVEGSAR	564.82	13.67	31.09	2				
FPGVNYPVLTPNFK					796.96	39.16	62.15	2
FFESFGD(+28.03)LSTADAVMNNPK	706.68	51.44	34.89	3				
IQALLN(sub D)KYNEEKPK					422.75	12.28	23.73	4
GFIGPGVDVPAPDMSTGER	951.48	40.56	64.15	2	951.47	33.74	62.64	2
DGVVVFTLGSM(+15.99)IK					691.37	37.09	43.83	2
DAYEELLTQAEIQGNINK	683.70	47.99	41.58	3				
QNLEPLFEQYINNLRR					683.01	44.79	25.37	3
SPALFIYTSGTTGLPK					826.98	34.64	55.76	2
GTTLITNLSSVLK	673.90	43.78	49.69	2	673.88	37.40	58.21	2
IAAFADAAVE(+21.98)PIDFPLAPAYAVPK	827.13	61.19	25.38	3				
ASGNYATVISHNPETK	563.62	13.93	51.69	3				
DINQEVYNFLATAGAK	585.32	59.59	35.17	3				
LGPALATGNVVVMK	685.41	32.52	48.24	2	685.37	24.59	65.17	2
NLWQIPEK					514.30	21.53	30.27	2
EFT(+27.99)PVLQADFQK	725.87	36.94	36.44	2				
GLIPQLIGVAPEK	667.92	46.17	50.42	2	667.90	38.76	54.39	2
IQVLGSLVSLEMGK					737.42	42.99	64.8	2
DESNYLDDALMR					721.33	31.40	57.13	2
A(+42.01)GKPTLHYFN(+.98)GR	468.59	19.47	49.3	3	468.57	14.18	43.31	3
S(+42.01)TGTFVVSQPLNYR	805.93	43.42	31.71	2	805.93	35.26	44.27	2
AVLHVALR	439.80	14.72	24.7	2				
GQETSTNPIASIFAWTR					940.01	52.36	68.65	2
YANLLVGSPSALADQATER	659.36	39.51	56.19	3				
LSALLPEPLK	540.84	33.87	37.84	2				
GINGK	488.30	27.63	26.9	1				
KVPQVSTPTL	535.32	22.39	32.53	2				
AFGAAGQRCMALSTAILVGEAK					722.39	53.27	22.7	3

LLGNVLVVVLAR	633.43	53.32	48.76	2	633.41	48.49	59.11	2
LTLYDIAHTPGVAADLSHIETR	599.09	46.22	63.82	4	798.44	40.24	80.06	3
VSLDPHAQVAVGILR	525.65	32.93	58.65	3	525.68	25.77	55.9	3
DFMYVSQDPK					615.31	17.92	53.04	2
IFINLPR					436.79	24.10	22.28	2
ALM(+15.99)LQGVDLLADAVAVTMGPK					710.40	61.94	41.49	3
VPGVCR					630.35	69.61	22.11	1
GAPTTSLISVAVTK	672.91	38.81	34.55	2	672.87	22.73	64.32	2
DKPDNFQLFQSPHGK	440.24	19.88	35.17	4	586.68	14.63	66.93	3
GKPVYHFGNTSTFSEYTVMDEISVAK					727.62	34.67	41.96	4
SVTEFN(+.98)GDTVTSTM(+15.99)TK					867.90	13.94	54.29	2
LVDSTTSYGLTGAVFAQDK	658.36	39.30	55.57	3				
TVTTLVNLVETYIVK					846.99	59.80	59.81	2
PM(+15.99)ILGYWDIR					640.34	37.05	23.05	2
ALGATDC(+57.02)LNPK	580.31	14.89	39.05	2				
VLGSQEALHPVHYEEK	459.76	14.83	55.01	4	459.75	12.07	61.54	4
ATDFVVPGPGK	544.30	20.97	62.22	2	544.33	15.64	55.69	2
APPSIFAEVPQAQPVLVFK	680.07	61.12	45.16	3	1019.63	49.61	51.85	2
DGSIDLVINLPNNNTK	863.97	43.25	48.8	2	863.96	36.34	54.41	2
LVLPGGIDTHTHMQFPF					637.32	45.13	27.61	3
PMYSNPPIN(+.98)GAR					659.33	13.81	35.46	2
APPLTLEGIK	519.83	26.95	25.86	2				
QTGVLLYQAYGQSEAGISCGTLRG	824.76	40.86	24.07	3	824.75	34.23	58.45	3
FGVIFAGAQK	519.30	27.28	48.88	2	519.30	20.71	58.19	2
TAAC(+57.02)LAAGNTVVIKPAQVTPLTALK					836.82	32.94	38.74	3
ATSAR					505.30	68.90	20.78	1
DNFHGLAIFLDTYPNDETTER	823.40	51.53	44.21	3				
VALAGILGFGLGK					608.44	46.84	59.93	2
KVPQVSTPTLVEVS(+27.99)R	556.66	26.47	30.64	3				
VPVDVAYQR	523.79	15.75	45.85	2				
VELVPPTPAEIPTAIQSLK	668.41	53.10	35.39	3				
DRLDMPYLDAVVHEIQR					690.70	44.56	65.06	3
ENIILGPGR	484.79	19.00	32.7	2				
KWEFVSAFR					585.35	23.81	34.5	2
LGSQTTVVLHGYEVVK	577.34	25.59	25.43	3				
RPLFLAPDFDR	449.59	31.79	28.29	3				

YLSFNSDHMTFLQR					587.02	29.50	53.57	3
AVDIPHMDIEALK	484.60	36.51	38.95	3				
DLLNALNEVINNPSYK	606.35	63.19	36.87	3				
PGALSELSDLHAHK	492.26	38.74	51.86	3	492.27	32.13	71.17	3
SQIDELYSTIK	648.86	33.07	48.11	2	648.84	25.53	46.5	2
TFVNITPAEVGILVGK	829.50	59.06	42.32	2	829.51	46.67	63.27	2
M(+15.99)AENLGFLGPLK	653.36	36.80	44.24	2				
AIVTTDTLAPEVESVAPEC(+57.02)PSLK	809.78	43.87	40.05	3	1214.19	38.21	41.18	2
AVLVDLEPGTMDSVR	801.43	38.58	26.78	2				
FLEQQNQVLQTK					738.40	14.84	57.47	2
LVDSTTSYGLTGAVFAQDKDVLR					819.45	35.63	58.08	3
VPATNLILGEGR	620.37	28.06	38.78	2				
SNIDNMFESYINNLR					915.44	52.12	67.76	2
LVALLNTLDR	564.35	37.31	33.98	2				
PPLEDSR					407.22	12.86	29.72	2
LAPSPPIVDTAQGR	711.41	21.91	31.26	2	711.40	15.56	41.7	2
IGVPLSVAVK	491.82	29.80	37.35	2				
MTGSNFDASSFNPHGISTFTDEDNTVYLLVVSHPDVK					1011.25	49.34	44.67	4
GTIEILSDVQLIK	714.94	48.34	52.21	2	714.94	42.32	49.97	2
SDTIQTDYVVYM(+15.99)DELASFIGAK	828.08	64.11	26.14	3				
AEVLDGAHLMR	404.56	19.59	29.95	3				
FQLVDSR	432.74	17.08	37.04	2	432.73	13.70	29.4	2
FAVLQTYGDTTHTLVEK	641.69	31.58	47.44	3	641.66	24.22	50.63	3
VWWMFR					462.74	38.65	33.45	2
VFQSSSNYAENFIQSIISTVEPAQR					939.17	62.95	53.38	3
SLSSALQYC(+57.02)QEGR					749.87	15.41	41.77	2
ETSGNLEQLLLAVVK	807.46	61.79	29.11	2				
AFLQNLLSASQAR					709.91	35.86	63.06	2
LC(+57.02)AATAAILSKPEDR	539.31	20.46	46.79	3	539.31	14.62	54.28	3
FSLDQLITH	537.30	43.87	25.24	2				
LPDGSEIPLPPILLGK	830.00	58.37	28.8	2	830.00	54.63	59.61	2
TDMENEFVIIK					669.82	30.07	61.5	2
VLVWPVEFSHWLNIK					623.01	54.94	40.5	3
IVEIPFNSTNK	631.36	26.67	28.53	2				
LVQFQAPH	470.27	19.12	26.01	2				
NVSTGDVNVEMNAAPGVDLTQLLNNM(+15.99)R					963.49	47.98	25.28	3

LFVEESIYDEFVR	823.42	52.53	54.24	2	823.41	46.71	71	2
VLSGDLGQLPAK	599.36	23.74	49.71	2				
TFPTVNPSTGDVIC(+57.02)HVAEGDK	748.71	34.66	24.87	3	748.70	27.06	28.52	3
FLPGPLFMK					525.30	34.26	39.59	2
HSPSIHQSVVSVSR	507.28	11.73	30.07	3				
NPTLFIFAENDAVIPLEQVSLLTQK					934.21	62.57	45.16	3
DTTPDE(+21.98)LLSAVMTAVLQDVK	723.38	67.99	33.81	3				
TFIAIKPDGVQR	448.94	20.88	33.94	3				
LPAVVTADLR	527.83	27.38	49.7	2	527.83	20.52	53.03	2
MGATLPEYR	519.27	18.92	34.29	2				
FILDGWHEMDSK					493.25	28.42	46.34	3
APNSPDM(+15.99)LEIEFK					753.86	24.96	47.88	2
SSGLPPGAAAVALLPVTLDTPVNR	772.79	57.99	32.51	3	772.78	51.69	64.96	3
PAAVPHGAGYELLIQK	555.33	26.32	39.22	3				
AVVDVPFGGAK	530.30	26.06	23.8	2				
LENYPIPEPGPNEVLLK	641.36	42.53	28	3	961.54	35.89	46.51	2
LVILM(+15.99)DPFEDDLKK	564.65	40.90	32.41	3				
GFPTIYFSPANK					671.32	31.03	52.33	2
GIGGIFFDDLDSPSK	784.39	48.27	55.25	2				
SLYSMIK					421.24	16.85	30.06	2
FYGEPVIK	476.77	21.25	24.61	2				
NN(+.98)GAGYFVEHLAFK	523.27	39.90	34.69	3				
SGFSSISVSR					513.77	13.56	42.95	2
WIPQN(+.98)DLLGHPK					473.60	21.86	29.82	3
AVQMGM(+15.99)SSVFFNK					731.34	21.07	39.84	2
TLAESALQLLYTAK	761.44	54.13	38.18	2				
FLPGPLFLK					516.35	37.05	38.59	2
Q(-17.03)LGLTHYR	485.78	20.85	31.99	2				
AAVLEVMTAFR					604.36	35.89	62.6	2
SLQDIIAILGM(+15.99)DELSEEDK	712.38	64.84	53.13	3				
PVYSHVDPK	521.28	16.17	33.65	2	521.29	12.68	44.39	2
ANTIASALAQIPQK	475.96	34.84	41.76	3				
ADNGK	504.28	15.48	23.52	1				
DYSEMYVTC(+57.02)AR					697.79	17.49	57.44	2
HYNATFKPGGLEGK	506.94	12.32	48.3	3				
ILSHAVALTR	540.84	13.52	26.13	2				

M(+42.01)FLLQGAQMLQMLEK					911.99	66.76	47.88	2
SLVPLMGEVR	550.83	34.52	26.58	2	550.83	27.41	40.57	2
IPFASIASR	481.29	25.46	41.45	2				
DMDLVEVNEAFAPQYLAVEK	761.06	57.85	55.02	3	1141.14	51.68	61.39	2
EC(+57.02)EVLPDDTVSSLYNR					948.95	28.72	43.73	2
LEEETGQVVGFHQPGSIR					661.67	16.66	50.63	3
LHTVYQSVELPETHQMLR					546.07	20.68	77.07	4
AFVDFLSDEIK	642.34	48.38	43.01	2				
GSVETWPWQVLSK					758.92	42.13	32.52	2
PQSIGVIGAPFSK					650.84	24.35	38.57	2
TLVYGGIFMYPANK					787.40	37.75	73.21	2
ELFLTFVTSSR	650.37	54.02	46.46	2	650.35	40.02	52.48	2
TAEVEC(+57.02)GDFYNTGDR					867.36	14.61	50.84	2
VGMAAVQLVPGQAFDGQR					922.51	33.27	33.02	2
TSFFQALGITTK					657.33	39.70	72.37	2
M(+15.99)C(+57.02)HPSIDGFTSR	475.22	15.18	42.31	3	475.24	12.51	28.04	3
Q(-17.03)LETLAQEK					521.79	21.35	29.72	2
TFAVQGFGNVGLHSM(+15.99)R	579.64	29.15	49.97	3				
WTPSPLVEDLK					642.85	29.70	38.32	2
LFNLYPR					461.78	21.25	37.12	2
HIADLAGNAEVILPVPAFNVIN(+.98)GGSHAGNK					749.90	44.46	31.84	4
LKNDGSLMFQQVPMVEIDGMK					794.08	41.18	34.24	3
PFVELDT(+79.97)SLPAGR	741.37	67.37	28.61	2				
GFFHGVR	410.23	13.18	30.68	2				
QTALVELLK	507.83	32.41	37.35	2	507.82	25.71	45.25	2
LQHLQAPLSWELVRPH					481.80	27.90	49.46	4
VVAVGYINEAIDEGDPLR	644.02	48.44	73.25	3				
DYGVLLEGPGLALR	736.93	50.69	66.62	2	736.91	45.48	62.33	2
VM(+15.99)TIAPGLFGTPLL					723.43	58.81	23.67	2
GGASGLGLATAER					580.37	49.66	25.14	2
GYYYLMQELPQER					845.42	33.81	58.93	2
SGVDADSSYFR					602.30	14.32	46.71	2
LFFSILR	448.28	42.85	25.09	2	448.29	37.04	33.62	2
EANLAASFGK	504.28	17.79	33.9	2				
DYAVQQYVR	571.30	22.47	53.59	2	571.34	16.10	50.53	2
DTN(+.98)GSQFFITTVK	729.87	37.66	50.83	2	729.86	30.29	53.69	2

AERPDGLILGMGGQTALNC(+57.02)GVELFR	892.13	52.98	38.17	3	892.14	47.49	50.02	3
MSQYLESMK					558.78	13.75	48.46	2
IFYLSVPPFAYVDIAR					936.03	58.61	21.57	2
YGLLILM(+15.99)K	483.79	33.41	23.48	2	483.82	26.47	27.25	2
VLQATVVAVGSGSK	658.40	19.85	59.13	2	658.38	14.26	66.39	2
TSAC(+57.02)FEPSLDYMVTK	874.91	37.97	32.02	2	874.91	31.79	42.84	2
NLHLDYVDLYIIHFPLAMKPGEELLPK					795.43	55.32	32.71	4
AVINEKTYK	533.31	27.80	26.99	2	533.33	20.17	28.03	2
FADGDVDAVLTR					639.82	22.67	61.94	2
KPLEALYGFDYFAR	563.98	58.23	50.66	3				
VSDLAGLDIGWK					637.35	35.37	55.41	2
FPDENFK					448.73	13.15	37.41	2
GQGSVALSVTQDPAC(+57.02)K	809.42	19.19	42.15	2	809.42	13.96	32.97	2
EVIDLLK	415.27	30.49	26.11	2				
FLHNPAADQGFVGC(+57.02)ALGSNIQR	791.42	48.04	25.95	3	791.42	27.41	45.31	3
VAFTGSTEVGK	548.31	14.50	45.2	2	548.29	12.38	50	2
DGLILTSR	437.77	20.98	34.09	2				
DDGSWEVIEGYR					713.32	30.98	69.67	2
QYGDIFTLLLGGK					712.89	57.98	32.47	2
NILYMASETIK	641.86	34.09	35.49	2	641.83	27.04	54.1	2
KEEILQILK	557.37	24.58	28.76	2				
SEDYALPSYVDR					707.83	21.15	45.77	2
ATIDEEGYFWFLGR	852.43	58.44	61.08	2	852.43	53.11	65.44	2
AAIGPYSQAVLVDR					730.39	22.98	33.64	2
ETLM(+15.99)DLSTK					527.27	12.80	32.75	2
FFESFGDLSTAD(+21.98)AVMNNPK	704.67	48.89	47.17	3				
GVVDSDDLPLNVSR					743.38	25.01	69.95	2
AGGYTPNPTYK	584.79	12.57	31.91	2				
FDPGHFLDK	538.27	25.76	45.84	2				
IILDELHLR	561.35	32.46	34.51	2				
DPEAPIFQVAD(+21.98)YGIVADLFK	744.06	67.01	28.25	3				
SLLFVDIPAK	551.83	41.46	26.74	2				
GHYTEGAELVDAVLDVVR	648.36	55.19	48.51	3				
ADLEM(+15.99)QIESLTEELAYLKK					747.40	56.28	32.82	3
LPVALDPGAK	490.80	21.29	47.91	2				
EGFNVSVVADPLFVLDNQAQAFR	846.12	65.44	30.91	3				

GASAINWTLIHGDK	494.94	26.83	53.63	3	741.90	20.11	64.04	2
ILDLIESGK	494.30	27.67	38.82	2	494.30	20.64	37.93	2
AAVDAGFVPNDLQVGQTGK	629.67	35.42	69.16	3	944.00	28.25	57.44	2
IIGLKPQGEPR	403.26	13.54	22.51	3				
SDPIQELHDLAEITTPDR					684.01	46.64	42.49	3
FADIVPLGLPH	589.85	46.76	28.4	2	589.88	40.19	31.02	2
LSGPR	529.33	23.69	26.12	1				
DMLC(+57.02)SQEETFGPVAPVIK	674.35	45.65	50.8	3				
IALGIPLPE(+21.98)IK	593.38	55.26	24.8	2	593.41	41.47	29.08	2
TKIEGLDIHFIHVKPPNLPSGQTPK					692.40	27.76	63.62	4
QSLEASLAETEGR					695.84	16.07	60.09	2
HPVLLEDPVLSAIA(sub S)QK					577.38	33.79	21.85	3
LSPLAQELR	513.81	21.59	40.02	2	513.81	16.18	38.95	2
LPEGIPLLLK	546.87	52.98	39.71	2	546.91	38.32	47.95	2
LLVVYPW(+15.99)TQR					645.85	26.37	28.48	2
IVGYFVSGC(+57.02)DPTIMGIGPVPAISGALK					907.16	56.78	31.7	3
GYLAVAVVK					460.30	17.38	49.85	2
KEPLFGISTGNL					638.34	31.60	35.62	2
GYFVQTPEELQK	719.88	28.07	60	2	719.88	20.78	60.4	2
VVASGFDFAN(+.98)GISMSPDR					935.95	37.59	60.14	2
PENLSLVVHGPGDLR	534.97	28.54	55.86	3				
VAPDVDLK					428.75	12.52	31.3	2
VTVDAPVSSVALR	657.39	27.33	45.91	2	657.36	19.90	56.78	2
LHVDPEN(+.98)FK					550.30	12.98	36.27	2
PAINVGLSVSR	556.84	25.59	39.31	2	556.83	17.81	40.91	2
EVAQQAVDADVHTVGVSTLAAGHK	601.58	25.53	55.94	4				
RPLVIEEVTPR	436.94	19.33	35.61	3				
QAD(+21.98)TVYFLPITPQFVTEVIK	777.77	66.32	24.98	3				
ALASLMTYK					499.27	18.41	48.4	2
FLVQSGIHDSFVK	492.95	26.56	41.24	3	738.91	19.65	53.17	2
AILGVSLAVC(+57.02)K	565.84	34.89	22.49	2				
FDAGELITQR	575.32	29.71	61.21	2	575.34	22.19	46.12	2
VPLGSVIK	406.78	17.71	29.94	2	406.78	14.04	33.97	2
THSDQFLVTFK	441.58	23.99	37.2	3	661.84	17.94	67.82	2
LAC(+57.02)GVIGIAK	501.31	21.19	35.97	2	501.32	15.33	41.18	2
STGYGAVINNAK	597.82	14.33	28.04	2				

FSALQYLR	499.28	32.16	24.25	2				
REDIFYTSK	579.81	13.44	49.22	2	579.82	12.24	48.78	2
IEDVAALDK					487.26	13.10	43.92	2
GHEITVLVPSQSLLIDR	626.38	39.77	63.23	3	626.37	33.12	62.87	3
ELGEYGFHEYTEVK					850.90	18.68	73.21	2
IIGLDQVAGMSETAMPGAFK	679.37	53.68	22.85	3				
IHAEALGYR	515.28	12.46	23.33	2				
C(+57.02)LGLTEAQTR	574.81	15.04	45.81	2	574.82	12.69	37.39	2
ELFSQIN(+.98)GLAGTSGK					761.88	31.92	55.21	2
VFAAGAD(+21.98)IK	457.25	15.03	26.34	2				
ALMLQGVDLLADAVAVTMGPK					705.06	63.29	75.83	3
ADMVIEAVFEDLNLK	569.64	64.14	55.22	3	853.96	59.23	58.83	2
IAEIFM(+15.99)R	448.25	19.62	25.49	2				
ALESPERPFLAILGGAK	590.36	44.41	43.63	3	590.41	37.15	43.28	3
VSM(+15.99)VEPGYFR	600.80	19.48	38.07	2				
ESVNAAFEM(+15.99)TLAEGVK					856.42	34.21	46.36	2
LGEH(+26.02)NIDVLEGNEQFINAAK	746.40	41.85	44.61	3	746.38	34.63	43.26	3
DLQDSGVSIFFYEFQHRPSSFAK					677.06	47.09	29.55	4
C(+57.02)SQFIPMEVISAPR					817.93	35.93	23.51	2
ISGLIYEETR	590.83	22.55	43.45	2	590.84	16.66	47.54	2
LDPTGAFEK					489.27	14.37	34.23	2
RFEELGIK	496.29	15.13	29.62	2				
IQDALEITGTFK	668.37	34.24	44.81	2	668.36	27.33	50.68	2
LVIIEGDLER					578.87	22.92	32.59	2
SDYTGLFFLVAR					694.87	50.79	68.94	2
QPVIASVSQLIFK					715.44	45.40	23.14	2
IAMGAFDK	426.72	17.72	37.29	2	426.73	13.92	39.92	2
LLLEYTDTNYEER					829.90	24.58	61.45	2
GWDENVYYTVPLVR					855.95	39.47	51.79	2
FAPPEPPESWSGVK					764.39	26.05	33.16	2
LIINSLYK	482.30	27.32	29.64	2	482.29	20.58	35.97	2
LLRPELEELR	634.39	39.22	34.8	2				
HPYFYAPELLYYANK	630.33	43.76	60.64	3	630.32	37.23	53.66	3
VSVVDLTC(+57.02)R	524.79	22.50	24.6	2	524.81	16.45	29.94	2
TGAIVDVPVGE(+21.98)ELLGR	549.64	45.86	32.94	3				
KYVLGNPLTPGVSQGPQIDK	704.41	30.69	54.67	3	704.38	22.41	70.83	3

GLHLN(+.98)MALILR					417.93	39.39	27.5	3
AATFGLILDDVSLTHLTFGK	707.09	64.96	25.08	3	707.05	54.71	58.62	3
AELNEFLTR	546.80	27.83	38.79	2	546.82	21.15	35.23	2
VLEVGFGMAIAATK					703.90	37.12	62.71	2
ESILDGLK					437.75	16.64	33.4	2
HFFTVTDPR	560.30	18.23	36.03	2				
QAPQTIHLPSGEILDVFDAAER	803.11	51.25	30.64	3	803.10	45.63	42.06	3
GETGPAGPAGPIGPVGAR	780.92	21.17	60.84	2	780.93	15.00	67.62	2
YFAGTMAEETAPAVLER	619.32	36.96	67.71	3	928.46	29.85	77.51	2
NTYYASIAK					515.78	12.40	43.88	2
ELLTEFGYK	550.31	32.73	36.4	2				
GYEVIYLTEPVDEYC(+57.02)IQALPEFDGK	983.48	61.75	42.26	3				
GYWGGPAFLR					562.32	29.96	52.99	2
GFLDTMLIEMAK	684.86	60.17	63.4	2	684.85	57.11	68.56	2
YPVGVHFLPK	578.84	24.18	54.44	2				
ILISLATGNR					529.33	19.64	45.26	2
HVPGASFFDIEEC(+57.02)RDK					636.30	20.36	25.78	3
LPFPIIDDK	529.31	37.98	47.72	2	529.32	31.16	49.96	2
ALM(+15.99)LQGVDLLADAVAVTM(+15.99)GPK	715.73	62.43	45.48	3				
EVGADFILQISNESPQEIAK	730.07	51.69	54.9	3	1094.60	46.89	47.26	2
GIYETPAGTILYHAHLDIEAFTMDR					709.37	52.28	51.26	4
TYDSYLGDDYVR					733.83	20.94	63.28	2
VAFTGSTEVGHLIQVAAGK(+42.01)SNLK					790.45	43.82	33.62	3
HTQVVEELTEQLEQFK	653.34	45.99	52.77	3				
MGLVDQLVEPLGPGVKPPEER					754.09	38.02	57.33	3
YKPVSNQVEC(+57.02)HPYFTQPK	556.30	16.35	25.23	4				
YQVQTQEN(+.98)YEAFMK					890.42	25.98	46.31	2
MGGSSGALYGLFLTAAAQPLK					685.04	53.70	55.06	3
VQTLTLQD(+21.98)GLIPLEIR	611.03	54.25	23.33	3				
EMEEFVQSSGEDGIVVF					951.45	52.22	46.69	2
TNLPSNTALR	543.81	14.09	31.91	2	543.83	12.37	22.8	2
VYGIESHVLSPGETK	539.29	21.70	53.88	3				
EGITVYSTQFGGYAK					810.92	25.70	50.84	2
SDFVFNFPR	564.79	41.07	34.51	2				

PTM: number in brackets indicates that the peptide is post translationally modified.

-10 logP: the peptide matching scoring schema of peptide identification involves matched peaks and their intensities, precursor mass error, enzyme specify, *de novo* sequence, and peptide size, etc. A statistical evaluation, -10lgP, is given for each peptide-spectrum match. Here 1g() is common logarithm with base 10, and P is the probability that a false identification of current search has the same or better significance.

M/Z: the precursor mass to charge ratio.

RT: retention time

Z: Charge

Table 5: Consumable Cost Calculations for the Gel Based Technique

18 cm 2DGE	Name	Total Cost	Cost / Unit (g or ml)	Cost per run (ZAR)	
Rehydration Solution	Urea	531.15/500g	1.06	0.51	4.8g used per 10ml stock from which 1ml used per sample
	CHAPS	2 642.93/5g	528.59	2.64	50mg used per 10ml stock from which 1ml used per sample
	Bromophenol blue	545.60 / 25g	21.82	0.11	0.05g used per 10ml stock from which 1ml used per sample
	DTT	2480.01 / 10g	248.00	6.94	28mg used per 1ml used per sample
	Ampholytes (3-10 pH range)	430/1ml	430.00	21.50	0.05ml used per 1ml used per sample
				31.70	**Cost per sample**
Equilibration Buffer	Urea	531.15/500g	1.06	3.82	180g used per 500ml stock from which 10ml used per sample
	Bromophenol blue	545.60 / 25g	21.82	0.02	0.05g per 500ml stock from which 10ml used per sample
	glycerol	2260 / 5L	0.45	1.59	176ml used per 500ml stock from which 10ml used per sample
	SDS	3008 / 1Kg	3.01	0.60	10g per 500ml stock from which 10ml used per sample
	Tris	955.21 / 100g	9.55	3.24	17ml per 500ml stock from which 10ml used per sample
	Iadoacatomide (IAA)	454.41 / 5g	90.88	2.27	0.25g used per 10ml used per sample
	DTT	2480.01 / 10g	248.00	2.48	0.1g per 10ml used per sample

				14.02	**Cost per sample**
	Acrylamide	161.59 / 100ml	17.53	210.36	24ml used per 2 gels
2 Gels	TEMED	670.41/100ml	0.10	0.00	0.008ml used per 2 gels
	APS	476.80/100g	0.48	0.02	0.1g used per 2 gels
	SDS	3008/1Kg	0.15	0.00	0.577ml from 10ml, 10% sotck used per 2gels
	Tris	955.21/100g	5.03	2.20	pH 8.8: 14.42ml from 1L (60.75g/L) used per 2gels
				212.58	
				106.29	
Running Buffer	SDS	3008 / 1Kg	3.01	12.03	10g used per 1L (X10 stock) from which 400ml used per 2gels
	Glycine	417.60 / 500g	0.84	48.11	144g used per 1L (X10 stock) from which 400ml used per 2gels
	Tris	955.21 / 100g	9.55	115.77	30.3g used per 1L (X10 stock) from which 400ml used per 2gels
				175.91	**Cost per gel or 2 gels**
18 cm IPG Strips	IPG Strip	1176.41/12 strips	98.03	98.03	1strip is used per sample
STAINS					
Fixing Solution	Ethanol	192/500ml	7.68	3.07	40ml used per 100ml
	Acetic acid	166/2.5L	66.40	6.64	10ml used per 100ml
				9.71	
Silver Stain	Ethanol	192/500ml	7.68	2.30	150ml used per 500ml
	Sodium thiosulfate	172.8/250g	0.69	0.00	0.1g used per 500ml

	Silver nitrate	974.4/10g	97.44	0.10	0.5g used per 500ml
	Sodium carbonate	512/5g	102.40	3.07	15g used per 500ml
	Formaldehyde	223.99/25ml	8.96	0.01	0.35ml used per 500ml
	Acetica acid	166/2.5L	66.40	3.32	25ml used per 500ml
				8.80	cost per gel
ORIOLE Stain				**2396.4**	cost per gel

Table 6: Consumable Cost Calculations for the Solution-Based Technique

Micro-Rotofor	Name	Total Cost	Cost	No. ml	Flow rate ml/min	No. mins / L	R / min	Time (min)	Cost per run (ZAR)	
	Carrier Ampholytes pH 3-10	430/ml	430						25.80	Assuming 2% (60ul) ampholytes used
	Ion exchange membrane assemblies	510 for 3 pairs	170						34.00	Each pair can be reliably used up to 5 times
	Cathode Buffer (100mM Sodium Hydroxide)	312/500g	0.62						0.02	10ml 100mM solution used (0.04g used)
	Anode Buffer (100mM Phosphoric Acid)	368/25g	14						1.37	10ml 100mM solution used (0.098g used)
									61.19	
SCX-LC	Column	9744/column	9744						97.44	
	NaH2PO4	812.73/250g	3.251						0.03	0.478g per 200ml stock used 5ml
	Acetonitrile	1500 / 2.5	0.6						0.30	20ml per 200ml stock used 5ml per sample
	NaCl	229.92/500g	0.4598						0.13	5.844 per 100ml stock 5 ml used per sample
	MS H_2O	187.3 / 1000ml	0.1873						0.84	180ml per 200ml stock 5ml used per run

									98.75	
High pH RP-LC	RP column (high pH)	5950 /column	5950						59.50	
	NH4OH	523.72/2000ml	0.2618						0.01	800ul per 200ml stock 5 ml used per sample
	Acetonitrile	1500 / 2500	0.6						2.40	80ml per 100ml stock 5 ml used per sample
	MS H_2O	187.3 / 1000ml	0.1873						0.55	119.2 per 200 ml stock 5ml used per sample
									62.46	
Low pH RP-LC	Acetonitrile	1500 / 2.5	600	1000	0.8	1250	0.48	30	14.4	**Cost per sample =** 1) No. of minutes to use up 1 L (No. mins/L) = (Cost/L) / (No. ml) 2) Rand per minute (R/min) = (Cost/L) / (No. mins/L) 3) Cost per sample = (R/min) x (Time)
			600	1000	0.2	5000	0.12	180	21.6	
	MS H_2O	187.3 / 1	187.26	1000	0.8	1250	0.14	30	4.49	
			187.26	1000	0.2	5000	0.03	180	6.74	
	Formic Acid	118.5 / 0.02	2369.2	1000	0.8	1250	1.89	30	0.28	
			2369.2	1000	0.2	5000	0.47	180	0.42	
	Software license (Protein Pilot)		124000	over 2 years					93.00	
	RP trap	5145 / 5 pack	1029						10.29	**Cost per sample =** (Cost/Unit) / 100 (where 100 injections is an estimate of column/trap/fittin g life-time) (Cost/Unit) /
	RP column	9040.5 / column	9040.5						90.40	
	Standards (GluFib)	405.76 / 1 mg	405.76						0.08	
	Fittings (for u-valves)	1817.72 / 6 pack	302.95						3.03	
	Fittings (trap + column)	1667.71 / 10 pack	166.77						1.66	

Vials	134.00 / 100 pack	13.40		13.40	5000 (5000x dilution required to make up standard for instrument calibration) (Total Cost) / (#Units in pack)
Vial inserts	240.00 / 100 pack	24.00		24.00	
				283.81	

Table 7: Gene ontology data list of proteins from the pooled and non-pooled RP-RP experiments

GO Term ID	Organism	GO Term Name	Number of Uploaded Genes Associated with GO Term	Number of Genes Associated with GO Term in Database	Proportion	GO Term ORA P-Value (Corrected)
GO:0055114	*Bostaurus*	oxidation-reduction process [biological_process]	161	583	28%	<1.0E-5
GO:0008152	*Bostaurus*	metabolic process [biological_process]	156	790	20%	<1.0E-5
GO:0006412	*Bostaurus*	translation [biological_process]	66	322	20%	<1.0E-5
GO:0006099	*Bostaurus*	tricarboxylic acid cycle [biological_process]	14	21	67%	<1.0E-5
GO:0006096	*Bostaurus*	glycolysis [biological_process]	15	38	39%	<1.0E-5
GO:0022900	*Bostaurus*	electron transport chain [biological_process]	20	77	26%	<1.0E-5
GO:0006631	*Bostaurus*	fatty acid metabolic process [biological_process]	14	36	39%	<1.0E-5
GO:0006749	*Bostaurus*	glutathione metabolic process [biological_process]	10	16	63%	<1.0E-5
	Bostaurus	ATP synthesis coupled proton transport [biological_process]	11	22	50%	<1.0E-5

GO:0015986						
GO:0051603	*Bostaurus*	proteolysis involved in cellular protein catabolic process [biological_process]	11	26	42%	<1.0E-5
GO:0006635	*Bostaurus*	fatty acid beta-oxidation [biological_process]	9	16	56%	<1.0E-5
GO:0006695	*Bostaurus*	cholesterol biosynthetic process [biological_process]	9	17	53%	<1.0E-5
GO:0015992	*Bostaurus*	proton transport [biological_process]	14	51	27%	<1.0E-5
GO:0045454	*Bostaurus*	cell redox homeostasis [biological_process]	15	64	23%	<1.0E-5
GO:0005975	*Bostaurus*	carbohydrate metabolic process [biological_process]	25	168	15%	<1.0E-5
GO:0006457	*Bostaurus*	protein folding [biological_process]	21	126	17%	<1.0E-5
GO:0006414	*Bostaurus*	translational elongation [biological_process]	10	28	36%	<1.0E-5
GO:0006662	*Bostaurus*	glycerol ether metabolic process [biological_process]	7	12	58%	<1.0E-5

GO:0006979	*Bostaurus*	response to oxidative stress [biological_process]	14	62	23%	0.00001
GO:0042274	*Bostaurus*	ribosomal small subunit biogenesis [biological_process]	6	9	67%	0.00002
GO:0051289	*Bostaurus*	protein homotetramerization [biological_process]	9	25	36%	0.00002
GO:0006184	*Bostaurus*	GTP catabolic process [biological_process]	28	226	12%	0.00002
GO:0006810	*Bostaurus*	transport [biological_process]	75	971	8%	0.00003
GO:0016126	*Bostaurus*	sterol biosynthetic process [biological_process]	6	10	60%	0.00003
GO:0006094	*Bostaurus*	gluconeogenesis [biological_process]	7	15	47%	0.00004
GO:0008610	*Bostaurus*	lipid biosynthetic process [biological_process]	11	45	24%	0.00007
GO:0051258	*Bostaurus*	protein polymerization [biological_process]	9	30	30%	0.00009
GO:0006520	*Bostaurus*	cellular amino acid metabolic process [biological_process]	9	31	29%	0.00012
GO:0006694	*Bostaurus*	steroid biosynthetic process [biological_process]	8	25	32%	0.00017

GO:0044262	*Bostaurus*	cellular carbohydrate metabolic process [biological_process]	5	8	63%	0.00018
GO:0009058	*Bostaurus*	biosynthetic process [biological_process]	13	70	19%	0.00021
GO:0006754	*Bostaurus*	ATP biosynthetic process [biological_process]	11	51	22%	0.00022
GO:0030259	*Bostaurus*	lipid glycosylation [biological_process]	6	14	43%	0.00032
GO:0044267	*Bostaurus*	cellular protein metabolic process [biological_process]	7	21	33%	0.00042
GO:0046034	*Bostaurus*	ATP metabolic process [biological_process]	6	16	38%	0.00076
GO:0006950	*Bostaurus*	response to stress [biological_process]	12	70	17%	0.00094
GO:0019853	*Bostaurus*	L-ascorbic acid biosynthetic process [biological_process]	3	3	100%	0.00149
GO:0006559	*Bostaurus*	L-phenylalanine catabolic process [biological_process]	3	3	100%	0.00149
GO:0033539	*Bostaurus*	fatty acid beta-oxidation using acyl-CoA dehydrogenase [biological_process]	3	3	100%	0.00149
GO:0046483	*Bostaurus*	heterocycle metabolic process [biological_process]	3	3	100%	0.00149

GO:0042542	*Bostaurus*	response to hydrogen peroxide [biological_process]	5	12	42%	0.0017
GO:0019363	*Bostaurus*	pyridine nucleotide biosynthetic process [biological_process]	4	7	57%	0.00193
GO:0051881	*Bostaurus*	regulation of mitochondrial membrane potential [biological_process]	4	7	57%	0.00193
GO:0006098	*Bostaurus*	pentose-phosphate shunt [biological_process]	5	13	38%	0.00242
GO:0006725	*Bostaurus*	cellular aromatic compound metabolic process [biological_process]	3	4	75%	0.00465
GO:0017144	*Bostaurus*	drug metabolic process [biological_process]	3	4	75%	0.00465
GO:0006544	*Bostaurus*	glycine metabolic process [biological_process]	3	4	75%	0.00465
GO:0006475	*Bostaurus*	internal protein amino acid acetylation [biological_process]	3	4	75%	0.00465
GO:0000302	*Bostaurus*	response to reactive oxygen species [biological_process]	3	4	75%	0.00465

GO:0006629	*Bostaurus*	lipid metabolic process [biological_process]	16	136	12%	0.00478
GO:0006200	*Bostaurus*	ATP catabolic process [biological_process]	13	98	13%	0.00494
GO:0015908	*Bostaurus*	fatty acid transport [biological_process]	4	9	44%	0.00537
GO:0006103	*Bostaurus*	2-oxoglutarate metabolic process [biological_process]	4	10	40%	0.00842
GO:0050665	*Bostaurus*	hydrogen peroxide biosynthetic process [biological_process]	3	5	60%	0.00974
GO:0018279	*Bostaurus*	protein N-linked glycosylation via asparagine [biological_process]	3	5	60%	0.00974
GO:0070208	*Bostaurus*	protein heterotrimerization [biological_process]	3	5	60%	0.00974
GO:0006166	*Bostaurus*	purine ribonucleoside salvage [biological_process]	3	5	60%	0.00974
GO:0022904	*Bostaurus*	respiratory electron transport chain [biological_process]	4	11	36%	0.01141
GO:0006546	*Bostaurus*	glycine catabolic process [biological_process]	4	12	33%	0.01633

GO:0008202	*Bostaurus*	steroid metabolic process [biological_process]	4	12	33%	0.01633
GO:0043534	*Bostaurus*	blood vessel endothelial cell migration [biological_process]	3	6	50%	0.01696
GO:0006081	*Bostaurus*	cellular aldehyde metabolic process [biological_process]	3	6	50%	0.01696
GO:0050908	*Bostaurus*	detection of light stimulus involved in visual perception [biological_process]	3	6	50%	0.01696
GO:0019464	*Bostaurus*	glycine decarboxylation via glycine cleavage system [biological_process]	3	6	50%	0.01696
GO:0042732	*Bostaurus*	D-xylose metabolic process [biological_process]	2	2	100%	0.01723
GO:0000729	*Bostaurus*	DNA double-strand break processing [biological_process]	2	2	100%	0.01723
GO:0006168	*Bostaurus*	adenine salvage [biological_process]	2	2	100%	0.01723
GO:0006532	*Bostaurus*	aspartate biosynthetic process [biological_process]	2	2	100%	0.01723

GO:0006533	*Bostaurus*	aspartate catabolic process [biological_process]	2	2	100%	0.01723
GO:0046395	*Bostaurus*	carboxylic acid catabolic process [biological_process]	2	2	100%	0.01723
GO:0006601	*Bostaurus*	creatine biosynthetic process [biological_process]	2	2	100%	0.01723
GO:0000447	*Bostaurus*	endonucleolytic cleavage in ITS1 to separate SSU-rRNA from 5.8S rRNA and LSU-rRNA from tricistronicrRNA transcript (SSU-rRNA, 5.8S rRNA, LSU-rRNA) [biological_process]	2	2	100%	0.01723
GO:0000461	*Bostaurus*	endonucleolytic cleavage to generate mature 3'-end of SSU-rRNA from (SSU-rRNA, 5.8S rRNA, LSU-rRNA) [biological_process]	2	2	100%	0.01723
GO:0006069	*Bostaurus*	ethanol oxidation [biological_process]	2	2	100%	0.01723
GO:0019551	*Bostaurus*	glutamate catabolic process to 2-oxoglutarate [biological_process]	2	2	100%	0.01723

GO:0019550	*Bostaurus*	glutamate catabolic process to aspartate [biological_process]	2	2	100%	0.01723
GO:0016098	*Bostaurus*	monoterpenoid metabolic process [biological_process]	2	2	100%	0.01723
GO:0031340	*Bostaurus*	positive regulation of vesicle fusion [biological_process]	2	2	100%	0.01723
GO:0045634	*Bostaurus*	regulation of melanocyte differentiation [biological_process]	2	2	100%	0.01723
GO:0009586	*Bostaurus*	rhodopsin mediated phototransduction [biological_process]	2	2	100%	0.01723
GO:0006212	*Bostaurus*	uracil catabolic process [biological_process]	2	2	100%	0.01723
GO:0000050	*Bostaurus*	urea cycle [biological_process]	2	2	100%	0.01723
GO:0006641	*Bostaurus*	triglyceride metabolic process [biological_process]	5	22	23%	0.02023
GO:0006364	*Bostaurus*	rRNA processing [biological_process]	8	54	15%	0.02054
GO:0007188	*Bostaurus*	G-protein signaling, coupled to cAMP nucleotide second messenger [biological_process]	4	13	31%	0.02101

GO:0006006	*Bostaurus*	glucose metabolic process [biological_process]	6	32	19%	0.02104
GO:0060158	*Bostaurus*	activation of phospholipase C activity by dopamine receptor signaling pathway [biological_process]	3	7	43%	0.02159
GO:0009308	*Bostaurus*	amine metabolic process [biological_process]	3	7	43%	0.02159
GO:0042744	*Bostaurus*	hydrogen peroxide catabolic process [biological_process]	3	7	43%	0.02159
GO:0006796	*Bostaurus*	phosphate-containing compound metabolic process [biological_process]	3	7	43%	0.02159
GO:0042574	*Bostaurus*	retinal metabolic process [biological_process]	3	7	43%	0.02159
GO:0042273	*Bostaurus*	ribosomal large subunit biogenesis [biological_process]	3	7	43%	0.02159
GO:0000038	*Bostaurus*	very long chain fatty acid metabolic process [biological_process]	3	7	43%	0.02159

GO:0006730	*Bostaurus*	one-carbon metabolic process [biological_process]	5	23	22%	0.02318
GO:0015031	*Bostaurus*	protein transport [biological_process]	26	335	8%	0.03029
GO:0008203	*Bostaurus*	cholesterol metabolic process [biological_process]	6	35	17%	0.03125
GO:0007017	*Bostaurus*	microtubule-based process [biological_process]	6	35	17%	0.03125
GO:0008652	*Bostaurus*	cellular amino acid biosynthetic process [biological_process]	4	16	25%	0.03511
GO:0009116	*Bostaurus*	nucleoside metabolic process [biological_process]	4	16	25%	0.03511
GO:0006564	*Bostaurus*	L-serine biosynthetic process [biological_process]	2	3	67%	0.0395
GO:0006556	*Bostaurus*	S-adenosylmethionine biosynthetic process [biological_process]	2	3	67%	0.0395
GO:0001306	*Bostaurus*	age-dependent response to oxidative stress [biological_process]	2	3	67%	0.0395
GO:0043297	*Bostaurus*	apical junction assembly [biological_process]	2	3	67%	0.0395

GO:0019439	*Bostaurus*	aromatic compound catabolic process [biological_process]	2	3	67%	0.0395
GO:0008218	*Bostaurus*	bioluminescence [biological_process]	2	3	67%	0.0395
GO:0009437	*Bostaurus*	carnitine metabolic process [biological_process]	2	3	67%	0.0395
GO:0030388	*Bostaurus*	fructose 1,6-bisphosphate metabolic process [biological_process]	2	3	67%	0.0395
GO:0006102	*Bostaurus*	isocitrate metabolic process [biological_process]	2	3	67%	0.0395
GO:0033144	*Bostaurus*	negative regulation of intracellular steroid hormone receptor signaling pathway [biological_process]	2	3	67%	0.0395
GO:0035022	*Bostaurus*	positive regulation of Rac protein signal transduction [biological_process]	2	3	67%	0.0395
GO:0009113	*Bostaurus*	purine base biosynthetic process [biological_process]	2	3	67%	0.0395
GO:0006407	*Bostaurus*	rRNA export from nucleus [biological_process]	2	3	67%	0.0395

GO:0016125	*Bostaurus*	sterol metabolic process [biological_process]	2	3	67%	0.0395
GO:0046653	*Bostaurus*	tetrahydrofolate metabolic process [biological_process]	2	3	67%	0.0395
GO:0009435	*Bostaurus*	NAD biosynthetic process [biological_process]	3	9	33%	0.0404
GO:0007193	*Bostaurus*	inhibition of adenylatecyclase activity by G-protein signaling pathway [biological_process]	3	9	33%	0.0404
GO:0044070	*Bostaurus*	regulation of anion transport [biological_process]	3	9	33%	0.0404
GO:0008217	*Bostaurus*	regulation of blood pressure [biological_process]	5	27	19%	0.0404
GO:0055072	*Bostaurus*	iron ion homeostasis [biological_process]	4	17	24%	0.0432
GO:0000902	*Bostaurus*	cell morphogenesis [biological_process]	8	62	13%	0.04349
GO:0006633	*Bostaurus*	fatty acid biosynthetic process [biological_process]	6	39	15%	0.04574
GO:0007005	*Bostaurus*	mitochondrion organization [biological_process]	5	28	18%	0.04667

GO:0000413	*Bostaurus*	protein peptidyl-prolyl isomerization [biological_process]	5	28	18%	0.04667

Colour coding in the order of significance (P- value)

Red: <1.0E-5

Pink: >1.0E-5; < 1.0E-4

Orange: >1.0E-4;< 1.0E-3

Yellow: >1.0E-3 ;< 1.0E-2

Green: >1.0E-2; < 1.0E-1